

**EGLIN AIR FORCE BASE
Florida**

FINAL

**EGLIN AIR FORCE BASE
CANTONMENT AREAS
ENVIRONMENTAL ASSESSMENT**



MARCH 2014

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**FINDING OF NO SIGNIFICANT IMPACT AND
FINDING OF NO PRACTICABLE ALTERNATIVE
EGLIN AIR FORCE BASE CANTONMENT AREAS, FLORIDA**

Pursuant to the Council on Environmental Quality regulation for implementing the procedural provisions of the National Environmental Policy Act (NEPA), Title 40 of the Code of Federal Regulations (CFR) §§ 1500–1508; Air Force Environmental Impact Analysis Process (EIAP) regulations 32 CFR § 989 and Department of Defense Directive 6050.1, the Air Force has prepared an Environmental Assessment (EA) to identify and assess the potential impacts on the natural and human environment associated with future development within the five major cantonment areas (Eglin Main, Duke Field, Camp Rudder, 7th Special Force Group (Airborne) (7 SFG(A)) cantonment, and Site C-6 20th Space Control Squadron (20 SPCS) area) at Eglin Air Force Base (AFB), Florida (EA Figure 1-1, page 1-2).

PURPOSE AND NEED (EA § 1.3, page 1-3) – Eglin AFB is facing considerable challenges in accommodating future missions and development due to fiscal constraints, ongoing demands of maintaining aging infrastructure, urban sprawl, encroachment, congested airspace, and limited resources. To continue supporting the evolving military mission and maintain adequate facilities for personnel, Eglin AFB requires a coordinated, long-range NEPA document that would:

- Provide a fence-to-fence evaluation of environmental constraints within the five cantonment areas. The goal is to provide a look at the environmental impacts associated with construction/demolition (C&D) of new and existing facilities within these areas. The actions are necessary for maintaining proficiency and achieving near- and long-term goals of Eglin AFB.
- Streamline the NEPA process by identifying areas free from environmental constraints. This document is not intended to serve as a comprehensive NEPA analysis for every development action anticipated; but rather, it would be a starting point, helping to identify potential environmental consequences of each development action. In some cases, individual projects may require additional analysis under NEPA, although the goal is to minimize repetition and facilitate rapid and efficient implementation of each action.
- Continue routine maintenance activities such as landscaping within the airfield safety buffers and along existing fence lines and utility right-of-ways.

By using geospatial and environmental analysis within this EA, Eglin AFB can identify areas where environmental impacts would not occur and/or be minimal and would be in a better position to conduct Military Construction (MILCON) and other C&D projects in an efficient way to meet the continually growing needs of the Air Force. The projects identified within this EA would be for a minimum of the next five to ten years. After this time period and/or if major steps have not been taken on any of the identified proposals, then reevaluation of this EA shall be accomplished to ensure its continued validity.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

No Action Alternative (EA § 2.2.1, page 2-1) – The No Action Alternative consists of maintaining current baseline infrastructure and facilities; none of the Area Development Plans or other identified actions would be implemented at any of the five cantonment areas on Eglin AFB.

Alternative 1 - Implement Projects at all Eglin AFB Cantonment Areas (EA § 2.2.2, page 2-3) – Alternative 1 is defined as authorizing the various Area Development Plans and other planned actions proposed for the five primary cantonment areas located on Eglin AFB. The five main areas include Eglin Main, Duke Field, Camp Rudder, 7 SFG(A) cantonment, and Site C-6 20 SPCS area. For Eglin Main, the overarching goal is to preserve and maximize the efficiency of mission critical infrastructure and facilities and would include such actions as MILCON, facility C&D projects, transportation/parking improvements, maintenance of proper encroachment

buffers, such as those to the north and west of Camp Pinchot, and preservation of historic areas. Improved safety is also a goal, as in the proposed rerouting of access roads to the Munitions Storage Area to avoid mission conflicts. Projects for Duke Field cantonment area includes C&D of existing and new facilities, reconfiguring the aircraft parking apron and other roads to maintain compatibility with potential impacts from on-going F-35 operations, anticipated airframe change proposed by the 919th Special Operations Wing (919 SOW) and 413th Flight Test Squadron as well as mission growth by the 919 SOW, who support 7 SFG(A). The Army Special Operations Force is a growing mission and the 7 SFG(A) anticipates continued personnel growth centered on military intelligence and information dominance fields. Located west of Highway 85 on Eglin Reservation, the 7 SFG(A) anticipates manpower growth up to 3,540 personnel in the coming years; however, a portion of this growth has yet to be approved. The 7 SFG(A) also proposes a number of C&D projects to enhance mission readiness, maintain security and low visibility of cantonment operations, implement sustainable design, and enhance quality of life. Alternative 1 would include authorizing the implementation of anticipated projects for the U.S. Army 6th Ranger Training Battalion cantonment area at Camp Rudder in the northwestern portion of Eglin Reservation. Battalion headquarters, community facilities, and student/cadre barracks would be consolidated in the interior of the cantonment area, creating a walkable campus core for students and instructors. Industrial and operations facilities would be located along the perimeter of the campus core to maximize adjacencies with Field 6 flight line and surrounding training areas. Transportation improvements would be included as part of these actions within Camp Rudder. Site C-6 is the primary home of 20 SPCS, a geographically separated unit of the 21st Space Wing, Peterson AFB, Colorado. The primary mission of 20 SPCS is tracking man-made space objects using radar and other systems. Over the next few years necessary facility modernization and internal space renovations, site improvements, and utility upgrades have been identified. A summary of the total number for facility/infrastructure square footage along with disturbed acreage to be impacted under Alternative 1 is provided in Table 2-1 on page 2-3 of the EA.

Alternative 2 - Alternative 1 plus a 25 Percent Footprint Increase for all Projects (EA § 2.2.3, page 2-3) – Alternative 2 is defined as a 25 percent footprint increase for all projects identified under Alternative 1 at the five main containment areas on Eglin AFB. A summary of the total number of facility/infrastructure square footage along with disturbed acreage to be implemented under Alternative 2 is provided in Table 2-2 on page 2-3 of the EA.

ENVIRONMENTAL CONSEQUENCES

Environmental analyses focused on the following areas: Air Quality, Biological Resource, Hazardous Material/Waste, Noise, Safety, Socioeconomics, Utilities, Water Resource, Soil, and Cultural Resources. Because airspace would not be reconfigured nor would there be any new units created or increases in air operations and/or changes in mission flying activities on Eglin Range under the Proposed Action, airspace was eliminated from further review (EA § 1.4.1, page 1-6). Overall, environmental analyses did not identify any significant impacts to any of the above resources. In addition, no significant cumulative impacts caused by implementation of the Proposed Action when combined with other past, present, and reasonably foreseeable actions occurring at Eglin AFB were identified (EA § 4.2, pages 4-2 to 4-4).

Air Quality (EA § 3.2.3, pages 3-16 to 3-18) – Emissions from both alternatives are mainly related to fossil fuel combustion during use of machinery and fugitive dust emissions from ground disturbance. These emissions are temporary in nature, ending when the projects are completed. As indicated in Tables 3-3 and 3-4 on page 3-17 of the EA, individual pollutant emissions from the Proposed Action do not exceed eight percent and are below the National Ambient Air Quality Standards; nor is conformity analysis required since Eglin AFB is located within an attainment area for all criteria air pollutants. While the Proposed Action would lead to increased greenhouse gas emissions, this level does not approach 25,000 metric tons and would not cause adverse effects to the regional air quality. Eglin AFB has identified the following air quality management actions (EA § 5.2.1, page 5-1) to be incorporated as part of the Proposed Action. The proponent will be responsible for adherence to:

- C&D activities will employ standard management measures such as watering of graded areas, covering soil stockpiles, and contour grading (if necessary), to minimize temporary generation of dust and particulate matter.
- Diesel-powered highway and non-road vehicles/engines used in construction will limit idling time to three minutes, except as necessary for safety, security, or to prevent damage to property; and such exhausts will be located the maximum feasible distance from any building fresh air intake vents.

Biological Resources (EA § 3.3.3, pages 3-24 to 3-25) – While most of the cantonment areas where development would occur are generally characterized as urban/landscaped, there still exist pockets of high quality natural areas adjacent and/or scattered throughout. Most of the proposed improvements would make use of existing infrastructure. New facilities would be located near existing ones. As such, the majority of development would take place on previously developed land, which is not considered quality wildlife habitat. Animals using these areas are likely habituated to human presence. Loss of this habitat would not be significant since these natural areas occur within fragmented vegetated portion of existing development and do not function as important wildlife habitat. Land clearing and associated C&D may have a localized effect on native terrestrial wildlife; however, these species would either relocate to another location or remain within the area and utilize remaining foliage for habitat. Several threatened and endangered (T&E) species occur throughout Eglin AFB and the reservation: Red Cockaded Woodpecker (RCW), Okaloosa darter, flatwoods salamander, Florida bog frog, eastern indigo snake and the commensal gopher tortoise, and Florida pine snake. Florida black bears have been documented within cantonment areas and one bald eagle nest is located in the central southern portion bordering Choctawhatchee Bay and east of Jack’s Lake (U.S. Air Force, 2011). In addition the cantonment areas have trees, large shrubs, and other vegetation that could provide habitat for migratory birds. As such Eglin’s Natural Resources Office has developed management actions in coordination with U.S. Fish and Wildlife Service to minimize impacts on federally listed T&E species inhabiting Eglin AFB. By incorporating these management actions (EA § 5.2.2, page 5-2) as part of the Proposed Action, there would be no significant impacts to biological resources under both alternatives. The proponent will be responsible for adherence to the actions below:

- Design building locations and orientations to minimize loss of trees, particularly longleaf pines.
- A gopher tortoise survey may be required before C&D activities begin. Any tortoises found will be relocated and any burrows on the project site will be investigated for the presence of eastern indigo snake. Burrows will be collapsed after investigation and relocated, if applicable, to deter subsequent occupation by additional gopher tortoises or other wildlife.
- Direct personnel to cease any activities if a black bear, eastern indigo snake, or gopher tortoise is sighted and allow the animal sufficient time to move away from the site on its own before resuming any activities. Immediately contact Eglin’s Natural Resources Office.
- Discourage human-bear interactions by responsibly handling waste and employing measures such as bear-proof dumpsters and bear-resistant garbage cans.
- Restrict vehicles to established roads and paved areas.
- Maintain at least a 100-foot vegetated buffer along Okaloosa darter and Florida bog frog streams.
- Utilize erosion control measures such as silt fencing near Okaloosa darter and Florida bog frog streams.
- Treat areas with known invasive nonnative species problems to reduce potential seed sources.
- Do not drive vehicles in areas with known invasive, nonnative species problems. If a vehicle is driven in such an infested area, clean the vehicle before it is driven to a non-infested area to avoid spread.
- Use only native plants for landscaping; tree clearing of any species is not permitted unless approved by Eglin’s Natural Resources Office.
- Continue monitoring of RCWs near cantonment areas by Eglin’s Natural Resources Office.
- If tree clearing occurs during nesting season, screen each inactive cavity tree during RCW breeding season to verify no trees have been recolonized.
- Continue prescribed burning as much as possible in RCW foraging habitat.

- A bird survey may be required prior to project initiation to ensure compliance with the Migratory Bird Treaty Act.

If the proposed development actions were to occur within and/or adjacent to any High Quality Natural Community, Outstanding Natural Area, or Significant Botanical Site (EA Figures 3-13 and 3-14, pages 3-21 to 3-22), additional NEPA analysis will be required and be reviewed by appropriate Eglin personnel from each area of expertise. In addition Endangered Species Act (ESA) Section 7 Consultation with the U.S. Fish and Wildlife will be required in order to determine any required biological resource mitigates.

Hazardous Materials/Waste (EA § 3.4.3, pages 3-34 to 3-36) – No adverse impacts related to hazardous materials are anticipated from implementation of either alternative. Hazardous and nonhazardous waste would be generated as a result of C&D activities and with certain buildings, could result in the production of minor amounts of lead-based paint or asbestos wastes. Management of hazardous waste would be performed according to prescribed procedures already in place; thus, no change to permits, hazardous waste generator status, or management procedures would be required and no adverse environmental impacts are anticipated. Figures 3-15 and 3-16 on pages 3-32 and 3-3 of the EA identify the location of the environmental restoration program (ERP) sites on Eglin AFB. While majority of the time development within the cantonment areas would avoid these ERP sites, if C&D activities were to occur within or near any of these sites, the proponent would coordinate their actions with the Eglin Environmental Management Branch, the U.S. EPA, the Florida Department of Environmental Protection (FDEP), and other relevant stakeholders, as required. Additional NEPA analysis would also be completed. By following the management actions identified above and below (EA § 5.2.3, page 5-2), there would be no significant impacts to hazardous and nonhazardous materials/waste for both alternatives.

- Construction will adhere to the present hazardous waste management program tracking and reporting requirements, as well as Air Force Instruction (AFI) 32-7086.
- Nonhazardous solid waste associated with building construction activities would be recycled to the extent possible.

Noise (EA § 3.5.3, pages 3-39 to 3-41) – Aircraft noise would be considered in the siting of facilities and appropriate procedures and/or sound attenuation measures would be implemented during facility design and construction. Construction noise would be temporary and localized to the area immediately surrounding the construction sites. While noise from C&D activities may be audible at nearby workplaces and residences, these impacts would be temporary in nature and cease once construction was completed; therefore, there would be no adverse impacts from noise under both alternatives.

Safety (EA § 3.6.3, pages 3-43 to 3-44) – Any new munitions storage facilities would require Explosive Site Plan packages to be submitted in accordance with Air Force Manual 91-201, *Explosives Safety Standards*. Other facilities would be sited with consideration for existing Explosives Safety Quantity Distance arcs and Surface Danger Zones. Facilities sited in areas of possible or probable unexploded ordnance (UXO) will be coordinated with 96th Test Wing Safety Office, 96th Test Wing Range Support Squadron, and the 96th Civil Engineering Squadron/Explosive Ordnance Disposal Squadron. Surveys will be conducted as required, especially if any activity would disturb ground within the Eglin AFB Range Complex followed by remediation if UXO is found. Any facilities proposed to be constructed or altered within the clear zones or accident potential zones would be sited and constructed in accordance with U.S. Department of Defense Instruction 4165.57, *Air Installation Compatible Use Zones*. No unique practices or materials would be required to construct facilities. During C&D activities, standard industrial safety standards and best management practices would be followed. Overall, there would be no adverse impacts on safety under both alternatives.

Socioeconomics (EA § 3.7.3, pages 3-45 to 3-46) – Construction projects would generate additional employment in the local region, particularly in the construction industry. It is possible construction workers may migrate to the area; however, with the current capacity in the construction industry, it is anticipated construction positions

would be filled by local workers. No disproportionate adverse impacts or risks to minorities or children are anticipated as a result of C&D activities in the five cantonment areas.

Utilities (EA § 3.8.3, page 3-52) – An increase in electricity, potable water, and natural gas usage would likely occur, but usage would be within permitted limits and could be accommodated without adverse impact on the supply lines in northwest Florida. Existing wastewater treatment plants would not have difficulty accommodating the additional flow from cantonment areas. Any new utilities lines would likely connect to the existing infrastructure within the cantonment areas. Recommended management actions (EA § 5.2.5, page 5-3) the proponent will follow include:

- Coordinate with all utility providers prior to any ground-disturbing activities in an effort to minimize potential conflicts.
- Consumptive Use Permit and Potable Water System Permit may be required; contact the Eglin Environmental Management Branch for determination.

Water Resources (EA § 3.9.3, pages 3-59 to 3-60) – Numerous types of water features (surface water, ground water, floodplains, and wetlands) reside at each of the Eglin AFB cantonment areas. The Air Force does not anticipate any impacts on groundwater from the Proposed Action since ground disturbances for the notional construction activities would occur either at the surface or, at most, a couple feet below the subsurface. No significant, direct impacts on surface water are expected at any of the cantonment areas as long as construction is 50 feet away from any local surface water feature. (Figures 3-19 and 3-20 on pages 3-56 to 3-57 of the EA identify locations). There would be indirect impacts to water resources from C&D activities under both alternatives (i.e., sediment transport by storm water from the proposed sites to any nearby surface waters); therefore, the Air Force would adhere to all Clean Water Act permitting requirements, implementing a site-specific Storm Water Pollution Prevention Plan (SWPPP) during the construction phases of the notional activity. An Environmental Resource Permit, which regulates storm water treatment and control with the goal to achieve pre-construction storm water conditions, would be required and continue through the life of the action. Below is a list of water resource management actions (EA § 5.2.6, pages 5-3 to 5-4) to be incorporated as part of the Proposed Action. The proponent will be responsible for adherence to:

- Do not alter natural flow patterns of streams by diverting water, causing siltation, or damming any portion of the stream or its tributaries.
- Vehicles and equipment must stay a minimum of 50 meters (164 feet) from the edge of slopes leading down to streams.
- For permitted off-road vehicle use, do not drive vehicles in or across streams except at designated crossing points.
- Install/maintain entrenched silt fencing and hay bales along the perimeter of the construction site prior to any ground-disturbing activities and maintain them in effective, operating condition prior to, during, and throughout the entire construction process to prevent fill material, pollutants, and runoff from entering wetlands or other surface waters.
- Maintain at least a 100-foot vegetated buffer between construction sites and surface waters.
- Incorporate a monitoring plan, especially after rain events, to observe the effectiveness of silt fencing, hay bales, and/or other erosion and sedimentation control devices and address modification as needed. Carefully examine and correct any failures to prevent reoccurrence.
- Replant cleared and disturbed areas with native vegetation and grasses or mulch when the final grade is established to reduce/prevent erosion. Note: For this action, gravel was proposed for the ground cover under the solar array and a 150-foot buffer to prevent potential fire hazard to solar panel array.
- Where applicable, reduce erosion using rough grade slopes or terrace slopes.
- Identify areas of existing vegetation the proponent would retain and not disturb by C&D activities.

- Conduct any repairs, maintenance, and use of construction equipment (e.g., cement mixers) in designated “staging areas” designed to prevent any chemicals, solvents, or toxins from entering the affected environment.
- Stabilize construction site entrances using Florida Department of Transportation-approved stone and geotextile (fiber fabric).
- Equip all work sites with adequate waste disposal receptacles for liquid, solid, and hazardous wastes to prevent construction or demolition debris from leaving the work site.
- Utilize proper site planning, low-impact design principles, and adequately engineered storm water retention ponds (or swales) to manage storm water (on site) and prevent discharges into nearby surface waters. The design would take into consideration the landscape of the area and physical features to determine whether a retention pond or series of swales would be used to contain runoff. In accordance with FDEP regulations, a Florida-registered professional engineer would design the proposed retention feature.
- Design open channels and outfall ditches so that they do not overflow their banks.
- Where flow volumes exceed 2 cubic feet per second, provide ditch pavement or other permanent protection against scouring. Re-vegetate unprotected ditches with permanent material to provide an erosion-resistant embankment.
- Provide all construction personnel with proper training regarding all management techniques.
- The Air Force would incorporate a comprehensive Storm Water, Erosion and Sedimentation Control Plan, and a SWPPP into the final design plans as required.
- Construction activities that have the potential to impact storm water quality or disturb more than 1 acre of land must be permitted under the Clean Water Act National Pollutant Discharge Elimination System permit as well as an Environmental Resource Permit.

Floodplain and Wetlands (EA, § 3.9.3, page 3-55) – The eastern and southern portion of Eglin Main support coastal wetland areas, which drain to Choctawhatchee Bay, and portions of Eglin Main fall within the 100-year flood zone. Duke Field, Camp Rudder, 7 SFG(A) cantonment, and Site C-6 20 SPCS area do not lie within a floodplain; however, several unconnected wetland areas lie to either the north, east, south or west of these areas. Under the Proposed Action, routine activities, such as airfield landscaping (mowing, trimming, tree removal, etc.) to maintain flight safety buffers, maintaining existing fence lines and utility right-of-ways, etc. would continue as necessary. While these activities would periodically occur within existing floodplain and wetland areas, they are temporary in nature and once completed would not make any permanent change to the drainage within these areas, nor would any new developments or activities be allowed. In addition, erosion and sediment control best management practices would be put in place to minimize secondary impacts from C&D runoff into these areas. Overall, there would be no significant impacts to floodplain and wetland areas from the Proposed Action.

Soils (EA § 3.10.3, pages 3-63 to 3-65) – Under both action alternatives, soil quality would be impacted (at least temporarily) during land clearing, site preparation, and C&D activities within the cantonment areas. Eglin AFB management policies and permitting requirements would implement erosion and sediment controls at construction sites to minimize impact on soil resources; therefore, there would be no significant impacts to soils from either alternative. Recommended management actions (EA § 5.2.7, page 5-4) the proponent will follow include:

- Describe slopes, water locations, drainage patterns, storm discharge locations, areas of soil disturbance, and areas where stabilization practices would occur.
- Describe erosion and sediment controls, best management practices, and construction site measures (i.e., implementing mitigation measures such as vegetating barren slopes more than 15 percent, using hay bales, and silt fences to reduce surface runoff into local waterways).
- Outline stabilization and structural plans to permanently stabilize soils and divert water off site and manage storm water.
- Provide control for potential pollutants, use approved state and local plans, and prevent non-storm water discharges.

- Provide for maintenance and inspection of all designed systems.
- Sequence construction activities to limit the soil exposure for long periods of time.

Cultural Resources (EA § 3.11.3, pages 3-68 to 3-70) – There are numerous prehistoric/archaeological sites, historic structures, and historic districts either listed in the National Register of Historic Places (National Register) or eligible for listing, which are located throughout Eglin AFB and the reservation, as determined by multiple cultural resource surveys that have been completed at each of the five cantonment areas. In addition, the Davis Cemetery is located at Eglin Main Base. No high probability areas remain to be surveyed within Eglin Main Base, 7 SFG(A), and Site C-6 20 SPCS areas. Two high probability areas remain to be surveyed within Duke Field and one individual structure is currently under review to determine National Register eligibility within Camp Rudder. As part of this action, cultural resource avoidance maps (Figures 3-23 and 3-24, pages 3-70 to 3-71) are incorporated by reference. These maps take into account all cultural resources eligible for listing on the National Register, items of cultural importance, as well as areas not yet investigated. Any proposed construction plans or other project activities will take into account cultural resources, archaeological sites, and historic structures. The proponent will coordinate with the Eglin Cultural Resources Office and follow the applicable policies and procedures in the Eglin AFB *Integrated Cultural Resources Management Plan* (Appendix D of EA), including subsequent planning and implementation of mitigations if required. Any activities planned in the future should not rely on these maps for detailed planning activities. These maps by nature constantly change as new information becomes available. Any individual or organization planning future activities within the restricted areas or near the boundaries of these areas will consult with the Eglin Cultural Resources Office in the early planning stages of any activity and additional NEPA analysis will be required.

ENVIRONMENTAL / LAND USE CONSTRAINTS

A primary objective of this EA was to review existing constraints to development on the five cantonment areas and identify areas where future development would be appropriate and least intrusive to the existing natural and human environment. This analysis utilized geographic information systems to identify where both constrained and unconstrained areas occur within the five cantonment areas. The Air Force identified the following constraints: wetlands/100-year floodplain, historic district area, historic structures, cultural restricted area, potential habitat for endangered species and bald eagles, active ERP/area of concern sites, probable/possible UXO, airfield clear zones and accident potential zones, explosive safety quantity distance arcs, military surface danger zones, live-fire ranges and aircraft noise contours.

Figure 3-1 through Figure 3-5 on pages 3-2 to 3-6 of the EA show the environmentally constrained areas within each of the cantonment areas while Figure 3-6 through Figure 3-10 on pages 3-8 to 3-12 show the land use constraints. This EA would not authorize any proposed activity that would occur in an environmentally constrained area without additional NEPA analysis and compliance with any other applicable regulations. With proper coordination and conformance with Air Force and installation-specific requirements, some development activities may take place in areas where land use constraints occur.

PUBLIC NOTIFICATION

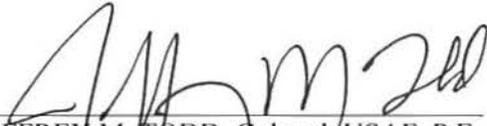
A notice was published in the *Northwest Florida Daily News* on February 15, 2014, inviting the public to review and comment on the draft final EA and draft Finding of No Significant Impact. The public comment period closed on March 1, 2014 and no public comments were received. State agency correspondence indicated there were no comments and can be found in Appendix C, *Agency Correspondence*, of the EA.

FINDING OF NO PRACTICABLE ALTERNATIVE

Taking the above information into consideration, pursuant to Executive Order 11988, *Floodplain Management*, and Executive Order 11990, *Protection of Wetlands*, and the authority delegated by Secretary of the Air Force Order 791.1, I find there is no practicable alternative to conducting the Proposed Action within the floodplain and wetland areas and the Proposed Action includes all practicable measures to minimize harm to the environment. This finding fulfill both the requirements of the referenced Executives Orders and the Air Force EIAP regulation, 32 CFR § 989.14, for a Finding of No Practicable Alternative.

FINDING OF NO SIGNIFICANT IMPACT

Based on my review of the facts and analysis contained in the attached EA, and as summarized above, I find the proposed decision to allow the development activities under either alternative at the five cantonment areas on Eglin AFB, Florida, will not have a significant impact on the natural or human environment; therefore, an environmental impact statement is not required. This analysis fulfills the requirements of the NEPA, the President's Council on Environmental Quality 40 C.F.R. §§ 1500 – 1508 and the Air Force EIAP regulations 32 C.F.R § 989.



JEFFREY M. TODD, Colonel, USAF, P.E.
Command Civil Engineer
Communications, Installations
and Mission Support

26 Oct 2014
Date

FINAL

**EGLIN AIR FORCE BASE
CANTONMENT AREAS
ENVIRONMENTAL ASSESSMENT**

Submitted to:

96 CEG/CEIE

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Prepared by:



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RCS 12-330

March 2014

All references to Science Applications International Corporation (SAIC) within this document now refer to Leidos, which was formerly part of SAIC.



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LIST OF ACRONYMS, ABBREVIATIONS, AND SYMBOLS

| | |
|-------------------------|---|
| µg/m³ | microgram per cubic meter |
| 20 SPCS | 20th Space Control Squadron |
| 413 FTS | 413th Flight Test Squadron |
| 6 RTB | 6th Ranger Training Battalion |
| 7 SFG(A) | 7th Special Forces Group (Airborne) |
| 919 SOW | 919th Special Operations Wing |
| 96 CEG/CEIE | 96th Civil Engineer Group/Environmental Management Branch |
| 96 CEG/CEIEA | 96th Civil Engineer Group/ Environmental Management Branch/Environmental Assets |
| 96 CES/CESD | 96th Civil Engineering Squadron/Explosive Ordnance Disposal Squadron |
| 96 TW | 96th Test Wing |
| 96 TW/RANSS | 96th Test Wing/Range Support Squadron |
| 96 TW/SE | 96th Test Wing/Safety Office |
| AAFES | Army and Air Force Exchange Service |
| AAS | aquifer air sparge |
| ACAM | Air Conformity Applicability Model |
| ACC | Air Combat Command |
| ACM | asbestos-containing material |
| AFB | Air Force Base |
| AFCEC | Air Force Civil Engineer Center |
| AFCEC/CZO | Air Force Civil Engineer Center/Operations Division |
| AFI | Air Force Instruction |
| AFMAN | Air Force Manual |
| AFMC | Air Force Materiel Command |
| AFOSH | Air Force Occupational and Environmental Safety, Fire Protection and Health |
| AFPD | Air Force Policy Directive |
| AFRL | Air Force Research Laboratory |
| AFSOC | Air Force Special Operations Command |
| AFTC | Air Force Test Center |
| AICUZ | Air Installations Compatible Use Zones |
| ALZ | Assault Landing Zone |
| AOC | Area of Concern |
| APE | Area of Potential Effects |
| AST | aboveground storage tank |
| AvFID | Aviation Foreign Internal Defense |
| BMPs | best management practices |
| BRAC | Base Realignment and Closure |
| BTEX | benzene, toluene, ethylbenzene, and xylenes |
| BX | Base Exchange |
| C&D | construction and demolition |
| CAR | contamination assessment report |
| CCTV | closed-circuit television |
| CEQ | Council on Environmental Quality |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CFR | Code of Federal Regulations |
| CHELCO | Choctawhatchee Electric Cooperative |
| CO | carbon monoxide |
| CO₂ | carbon dioxide |
| CRIMS | Cultural Resource Information Management System |

LIST OF ACRONYMS, ABBREVIATIONS, AND SYMBOLS CONT'D

| | |
|---------------------------|---|
| CWA | Clean Water Act |
| CZMA | Coastal Zone Management Act |
| dB | decibels |
| dBA | A-weighted decibels |
| dBC | C-weighted decibels (impulsive noise) |
| dBp | P-weighted decibels (peak noise) |
| DNL | day/night average sound level |
| DoD | Department of Defense |
| DPT | direct push technology |
| EA | Environmental Assessment |
| EGTR | Eglin Gulf Test and Training Range |
| EPCRA | Emergency Planning and Community Right-to-Know Act |
| ERP | Environmental Restoration Program |
| ESA | Endangered Species Act |
| ESQD | Explosives Safety Quantity Distance |
| FAA | Federal Aviation Administration |
| FAC | Florida Administrative Code |
| FDEP | Florida Department of Environmental Protection |
| FHWA | Federal Highway Administration |
| FICON | Federal Interagency Committee on Noise |
| FICUN | Federal Interagency Committee on Urban Noise |
| FONPA | Finding of No Practicable Alternative |
| FT- | Fire Training |
| ft² | square feet |
| FWC | Florida Fish and Wildlife Conservation Commission |
| GCTLs | groundwater contaminant threshold level |
| GIS | geographic information system |
| GPD | gallons per day |
| GPM | gallons per minute |
| HAZMAT | Hazardous Materials |
| HHRA | human health risk assessment |
| HMMP | Hazardous Materials Management Program |
| Hz | hertz |
| ICRMP | <i>Integrated Cultural Resources Management Plan</i> |
| IJTS | Initial Joint Training Site |
| IRP | Installation Restoration Program |
| ITN | Information Transport Node |
| JP- | jet propellant |
| JSF | Joint Strike Fighter |
| kV | kilovolts |
| LBP | lead-based paint |
| lbs | pounds |
| lbs/ft² | pounds per square foot |
| L_{eq(8)} | noise level (average acoustic energy) over an 8-hour period |
| LHA | Landing Helicopter Amphibious |
| L_{max} | maximum sound level |
| MAJCOM | Major Command |
| MHPI | Military Housing Privatization Initiative |

LIST OF ACRONYMS, ABBREVIATIONS, AND SYMBOLS CONT'D

| | |
|-----------------------------|--|
| MILCON | Military Construction |
| MNA | monitored natural attenuation |
| MRTFB | Major Range and Test Facility Base |
| MS4 | municipal separate storm sewer systems |
| MSGP | multi-sector general permit |
| MSL | mean sea level |
| MVA | million volt-ampere |
| NA | natural attenuation |
| NAAQS | National Ambient Air Quality Standards |
| National Register | National Register of Historic Places |
| NEI | National Emissions Inventory |
| NEPA | National Environmental Policy Act |
| NFA | no further action |
| NHPA | National Historic Preservation Act |
| NO_x | nitrogen oxides |
| NPDES | National Pollutant Discharge Elimination System |
| NWFWMD | Northwest Florida Water Management District |
| O&M | operations and maintenance |
| OSHA | Occupational Safety and Health Administration |
| OVA | organic vapor analyzer |
| PAH | polycyclic aromatic hydrocarbon |
| PCB | polychlorinated biphenyl |
| PCE | perchloroethylene |
| PK_{15(met)} | peak noise exceeded by 15 percent of firing events |
| POL | petroleum, oil, and lubricant |
| ppb | parts per billion |
| ppm | parts per million |
| PVC | polyvinyl chloride |
| RAP | remedial action plan |
| RCNM | Roadway Construction Noise Model |
| RCRA | Resource Conservation and Recovery Act |
| RCW | red-cockaded woodpecker |
| RFI | RCRA Facility Investigation |
| RME | reasonable maximum exposure |
| ROI | region of influence |
| RR | Range Road |
| SAR | Site Assessment Report |
| SDZ | Surface Danger Zone |
| SHPO | State Historic Preservation Officer |
| SO₂ | sulfur dioxide |
| SO_x | sulfur oxides |
| SS- | Spill Site |
| ST- | Storage Tank |
| STOVL | Short Take-off Vertical Landing |
| SVE | soil vapor extraction |
| SVOC | semivolatile organic compound |
| SWPPP | Stormwater Pollution Prevention Plan |
| TA | Test Area |

LIST OF ACRONYMS, ABBREVIATIONS, AND SYMBOLS CONT'D

| | |
|--------------|--|
| TCPs | traditional cultural properties |
| TI | Technical Instruction |
| TRPH | total recoverable petroleum hydrocarbons |
| U.S. | United States |
| USACE | U.S. Army Corps of Engineers |
| USC | United States Code |
| USDOT | U.S. Department of Transportation |
| USEPA | U.S. Environmental Protection Agency |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Survey |
| UST | underground storage tank |
| UXO | unexploded ordnance |
| VOC | volatile organic compound |
| VOIP | voice-over-internet-protocol |
| WRCA | Water Resource Caution Area |
| WWTP | wastewater treatment plant |

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1. PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

This Environmental Assessment (EA) analyzes potential environmental impacts of anticipated future development within the five major cantonment areas on Eglin Air Force Base (AFB), Florida. The Eglin military complex is a U.S. Air Force-controlled, multiservice Department of Defense (DoD) Major Range and Test Facility and training area. Its primary function is to support research and development of conventional weapons and electronic systems, as well as to support individual and joint training of operational units.

Eglin AFB is located in the Florida Panhandle in portions of Okaloosa, Santa Rosa, Walton, and Gulf Counties (Figure 1-1). The base is a national asset of the Air Force Materiel Command (AFMC) headquartered at Wright-Patterson AFB, Ohio, and the Air Force Test Center (AFTC) headquartered at Edwards AFB, California. Eglin AFB is facing considerable challenges in accommodating future missions and developments. Some of these challenges are fiscal constraints, ongoing demands of maintaining aging infrastructure, changing missions, urban sprawl, encroachment, congested airspace, global climate change, and limited resources.

As the host wing for Eglin AFB, the 96th Test Wing (96 TW) is the test and evaluation center for air-delivered weapons, navigation and guidance systems, Command and Control systems, and Air Force Special Operations Command (AFSOC) systems. The 96 TW performs development test and evaluation across the complete system life cycle for a wide variety of customers, including Air Force Systems Program Offices, Air Force Research Laboratory (AFRL), logistics and product centers, Major Commands (MAJCOM), other DoD services and U.S. government agencies, foreign military sales, and private industry. The 96 TW serves as the installation commander, supporting Eglin with traditional military services, civil engineering, personnel, logistics, communications, computer, medical, security, and all other host services and base operating support functions (U.S. Air Force, 2012).

Eglin AFB comprises 724 square miles of reservation land with 36 specific test areas and approximately 125,000 square miles of charted airspace referred to as the Eglin Gulf Test and Training Range (EGTTR), which extends south to the Florida Keys. The EGTTR is the largest water test range in the continental United States. Eglin's primary function is supporting research, development, test, and evaluation of conventional weapons and electronic systems and joint training of operational units. Serving several DoD components responsible for developing, testing, and operating weapons systems, Eglin AFB is one of several DoD installations comprising the Major Range and Test Facility Base (MRTFB). Included in the Eglin Reservation are 10 auxiliary fields, 5 active and 5 inactive, and the only supersonic overland range east of the Mississippi River.

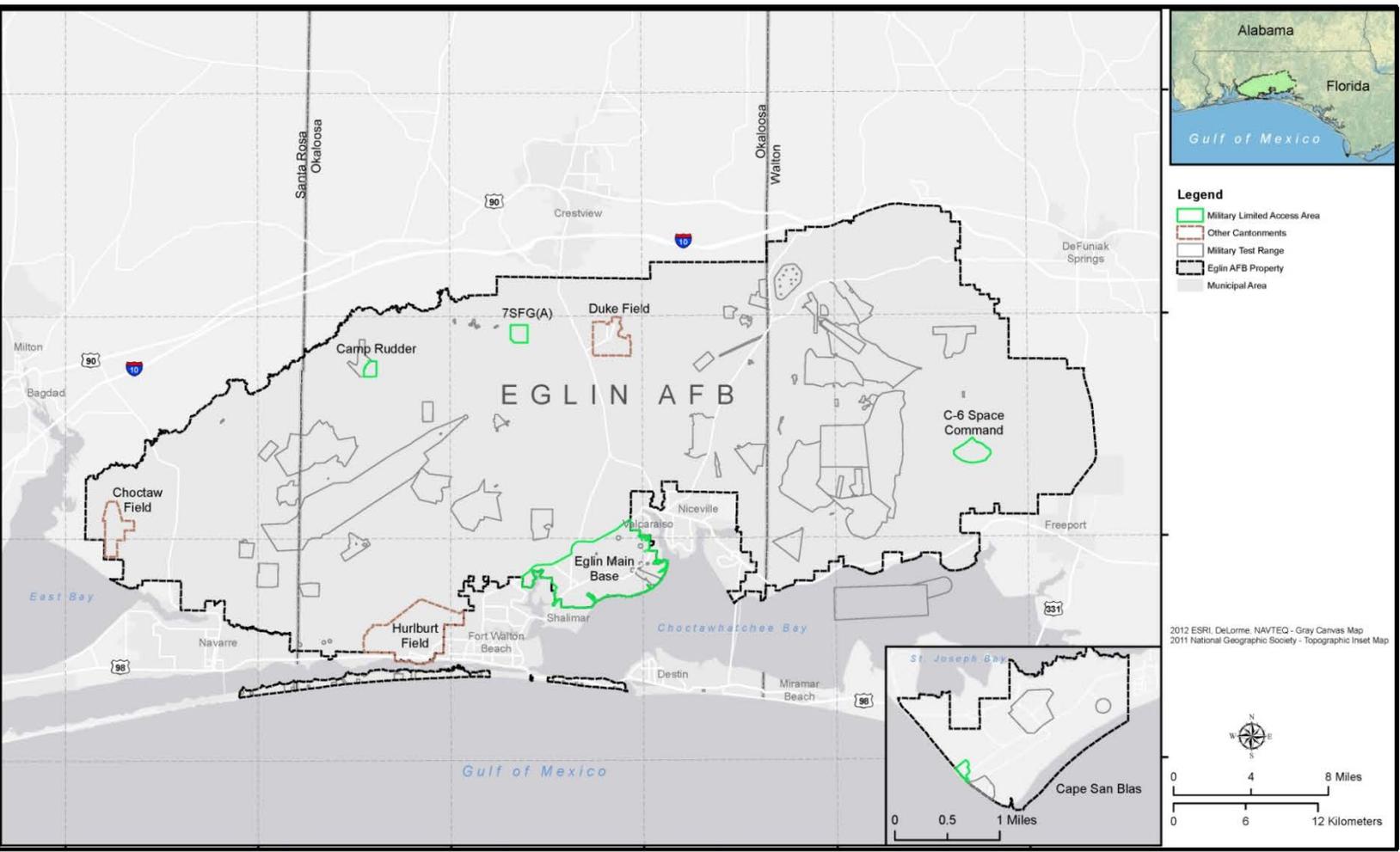


Figure 1-1. The Eglin Military Complex

1.2 PROPOSED ACTION

The region of influence (ROI) for this analysis includes all of Eglin AFB cantonment areas. To continue to support the evolving military mission at Eglin AFB and to maintain adequate facilities for personnel, the Air Force anticipates numerous construction and demolition (C&D) projects in the cantonment areas in the coming years (Figure 1-2):

- Eglin Main Base
- Duke Field
- Camp Rudder
- 7th Special Forces Group (Airborne) (7 SFG[A]) Cantonment
- Site C-6 20th Space Control Squadron (20 SPCS) Area

Eglin's future growth and its associated cantonment areas require coordinated long-range fence-to-fence National Environmental Policy Act (NEPA) documentation to aid and support the efficient implementation necessary to sustain Eglin's military mission. Thus, the Air Force is analyzing the potential environmental impacts of all anticipated future development within the five cantonment areas on Eglin AFB (Figure 1-2) in this EA.

This EA will aid in determining how the installation will meet these challenges by guiding development in appropriate locations, minimizing impacts, conserving resources, and creating a way forward for future development of Eglin's cantonment areas.

1.3 PURPOSE AND NEED

The Air Force desires to authorize the projected development within those cantonment areas where environmental consequences would be minimal for the next five to ten years. By identifying areas where environmental impacts would not occur, using geospatial and environmental analysis, the Air Force will be better positioned to conduct Military Construction (MILCON) and other C&D projects quickly and efficiently to meet the growing needs of the Air Force and Eglin AFB. The Proposed Action will:

- Provide a fence-to-fence evaluation of environmental constraints within the five cantonment areas to facilitate quick and efficient processing of development actions. The goal is to provide a look at the environmental impacts associated with development of new facilities, demolition, and renovation of existing facilities in Eglin's cantonment areas. These actions are all necessary for maintaining proficiency and achieving the near- and long-term goals of the Air Force at Eglin AFB.
- Streamline the NEPA process for development of Eglin's cantonment areas by identifying areas that are free from environmental constraints, allowing for tiering and/or incorporation of this EA by reference. This EA is not intended to serve as a comprehensive NEPA analysis for every development action anticipated. Rather, it should be a starting point, helping to identify potential environmental consequences of the development actions efficiently. In many cases, individual projects may require additional analysis under NEPA, though the goal is to minimize repetition and facilitate rapid and efficient implementation of projects in the cantonment areas of Eglin AFB.

- Include the continuation of necessary routine maintenance activities already occurring within some wetlands and floodplains. This includes maintenance of landscaping in the airfield safety buffers, which is required to maintain safety for aircraft; maintenance of existing fence lines and utility right-of-ways, which already go through some wetland or floodplain areas; and other similar projects. No new developments or activities would be conducted in wetlands or floodplains as a result of the Proposed Action. Pursuant to Executive Order 11988, *Floodplain Management*, and Executive Order 11990, *Protection of Wetlands*, this EA includes a Finding of No Practicable Alternative (FONPA) to continue these existing operations within wetlands and floodplains. The Proposed Action, as designed, includes all practicable measures to minimize impacts on wetlands and floodplains.

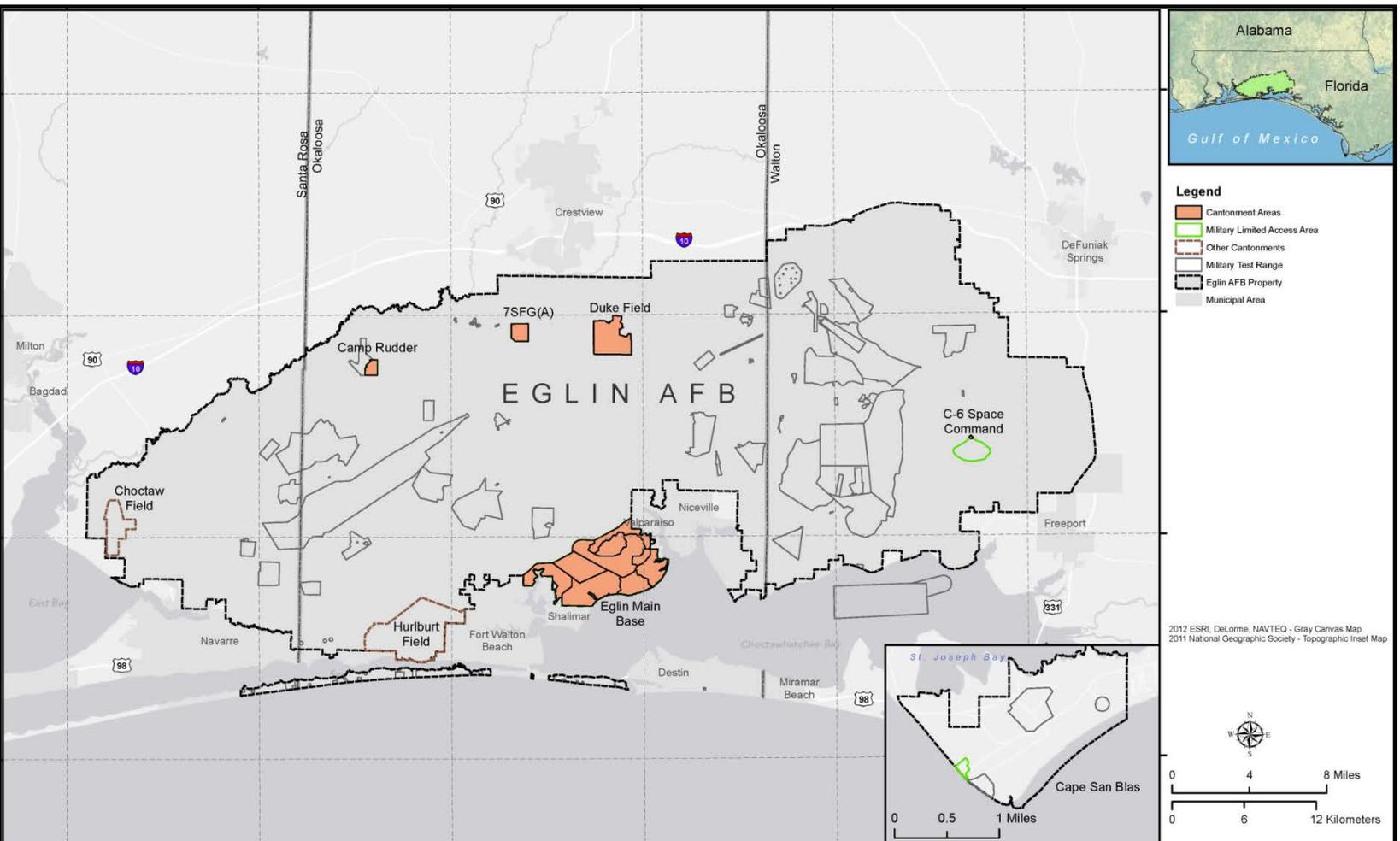


Figure 1-2. Eglin AFB Cantonment Areas

1.4 ISSUES

Specifically, an issue may be the result of a development activity or land use activity that may directly or indirectly impact physical, biological, and/or cultural resources. A *direct* impact is a distinguishable, evident link between an action and the potential impact, whereas an *indirect* impact may occur later in time and/or may result from a direct impact.

To determine potential environmental impacts of alternative actions on the Eglin cantonment areas, resource areas were identified through preliminary investigation. Resource areas eliminated from further analysis are discussed in Section 1.4.1. Resource areas identified for detailed analysis are described in Section 1.4.2, along with a summary of the preliminary screening for potential impacts.

1.4.1 Resource Areas Eliminated From Detailed Analysis

Airspace

No airspace would be reconfigured, new units created, or increase in air operations and/or changes in mission flying activities on the Eglin Range as a result of the Proposed Action; therefore, there are no potential impacts on airspace. Airspace is not further analyzed in this EA.

1.4.2 Resource Areas Identified for Detailed Analysis

Air Quality

Construction, demolition, and other development efforts would produce particulate matter and combustive emissions from construction equipment and worker vehicles. Analysis addresses the expected levels of emissions and compares these levels with what is currently permitted from all Eglin AFB sources and county emissions.

Biological Resources

Biological resources may be affected by the Proposed Action. Issues to be examined include potential impacts on wildlife, sensitive species, and habitats from direct physical impact, habitat alteration, and noise. The direct physical impact is the physical harm that can occur to an organism (plant or animal) if it comes into contact with an effector, such as a piece of construction machinery. Species may be directly hit or crushed by C&D machinery.

Habitat alterations are described as the physical damage or perturbations to terrestrial and aquatic habitats. Habitat alteration can occur as a result of grading or other development actions. The major issues for this category are the potential loss of gopher tortoise burrows, gopher frog ponds, potential flatwoods salamander ponds, and red-cockaded woodpecker (RCW) trees/foraging habitats from development activities such as C&D and associated vehicle use. Gopher tortoise burrows are used by several sensitive species besides the gopher tortoise, including the gopher frog, indigo snake, and Florida pine snake. On Eglin Main Base and Duke Field, there is potential for impacts on Okaloosa darter habitat in Toms Creek. Potential impacts on tributaries of the Yellow River are also evaluated for the 7 SFG(A) Cantonment and Camp Rudder.

Noise produced by C&D may stress some wildlife species, cause behavioral alteration (such as flushing or vacating an area), or cause hearing loss/damage. Scientific data correlating the effects of noise on humans are well documented; however, information regarding the effects of noise events on wildlife species is limited.

Analysis focuses on identifying sensitive species and habitats within the Eglin cantonment areas, analyzing the potential for impacts, and establishing management actions for the avoidance and/or minimization of identified potential impacts.

Hazardous Materials

Hazardous materials encompass liquid, solid, or gaseous substances that are released into the environment as a result of development activities; these include organic and inorganic materials that can produce a chemical change or toxicological effect on an environmental receptor. The chemical materials that can accumulate in the environment through repeated use represent the highest potential for environmental impact; for Eglin cantonment area development, this primarily includes petroleum, oils, and lubricants (POLs) associated with C&D machinery. Asbestos-containing materials (ACMs) and lead-based paint (LBP) are also concerns associated with demolition or renovation of existing facilities that were constructed before the use of such substances was banned.

The chemical materials analysis will also consider Environmental Restoration Program (ERP) sites and potential interactions that construction or other ground disturbances that may impact ERP sites.

Noise

Noise is defined as the unwanted sound produced by mission activity and its associated expendables. Noise may directly inconvenience and/or stress humans and some wildlife species and may cause hearing loss or damage. The primary noise of concern is the C&D noise, which could affect nearby offices and facilities and adjacent communities. Also of concern is aircraft noise potential to impact facilities to be developed. The biological resources section analyzes the potential for noise impacts on biological receptors, such as RCWs.

Safety/Restricted Access

Safety involves hazards to military personnel and the public resulting from construction or mission activities. Restricted access is typically the result of safety considerations but may also result from site security or electromagnetic radiation hazards (as is the case at Test Area [TA] C-6). Restricted access applies to the restriction of public access, described in terms of the availability of Eglin resources (such as test areas, interstitial/recreational areas, or public roads) to the general public. Receptors potentially impacted include military personnel and the public desiring to use these areas. Guidance for restricted access is utilized to coordinate public and military use of airspace, water bodies (e.g., the Gulf of Mexico), and land areas within the Eglin ROI. Although all cantonment areas are closed to all forms of public access, restricted access issues may result due to brief closures of recreational areas that are adjacent to construction or other activities.

Socioeconomics and Environmental Justice

Potential socioeconomic impacts include those that would expose low-income and minority populations to disproportionate negative impacts or would pose special risks to children (under 18 years old) due to noise and other conditions in cantonment areas adjacent to communities. The socioeconomic receptors include nearby communities and property that are impacted by the noise from Eglin AFB construction. Some of these communities include low-income or minority populations. Analysis focuses on determining the exposure of these communities to anticipated environmental effects and identifying whether potential areas of concern were disproportionate to other communities in the region.

Utilities

This EA examines the presence of sufficient infrastructure and utilities to support new planned development. Utilities include facilities such as water and power supply and waste management. The primary concerns are ensuring that proposed development does not interfere adversely with the existing infrastructure and that the existing infrastructure has sufficient capacity to support new development. Thus, this EA does not include evaluations of proposed new utilities facilities, such as proposed alternative energy production facilities.

Water Resources

The Proposed Action has the potential to impact water resources within and around the cantonment areas. Analysis of water resources addresses the potential for impacts on surface waters, wetlands, floodplains, and groundwater from sedimentation and/or contamination from development activities.

Soils

Soils within Eglin cantonment areas have the potential to be impacted from development activities. Analysis addresses the potential for erosion from C&D activities.

Cultural Resources

Potential adverse effects on cultural resources would include disturbance or destruction of sites or artifacts, including demolition or modification of historic buildings, structures, districts, and landscapes that are likely to be impacted by the Proposed Action. Physical disturbance and/or the destruction of cultural resources could occur from development activities. Analysis focuses on archaeological sites, eligible historic structures, and cultural districts that may be impacted and the likelihood of site disturbance and/or direct modification through demolition or renovation.

There are potential areas of cultural resources located within or very near the boundaries of the Eglin cantonment areas. Cultural restricted access areas are located within several cantonment areas as well. Additionally, several archaeological sites are located within the Eglin cantonment areas. Any planned activity that may result in impact on or modification of archaeological sites must be vetted through the 96th Civil Engineer Group/Environmental Assets (96 CEG/CEIEA) Cultural Resources Office. In the event of unexpected discovery of cultural resources, all

activity in the immediate vicinity must cease until the proponent makes proper notification to the Base Historic Preservation Officer and the Cultural Resources Office.

Cumulative Impacts Analysis

The cumulative impacts analysis considers effects beyond the immediate studied area, as well as the cumulative effects of implementing all alternatives studied in this EA. The cumulative impacts analysis also includes other anticipated future projects that may contribute to a cumulative effect on the environment when implemented in conjunction with the Proposed Action. An example would be the additive regional air quality impacts of concurrent construction of the Mid-Bay Bridge expansion and construction of facilities on Eglin Main Base.

1.5 FEDERAL PERMITS, LICENSES, ENTITLEMENTS, AND OTHER REGULATORY REQUIREMENTS

The Air Force will complete a Section 7 informal consultation with the U.S. Fish and Wildlife Service (USFWS). Correspondence with USFWS is included in Appendix C, *Agency Correspondence*, of this EA.

Some components of this action would take place within, or otherwise may affect, the jurisdictional concerns of the Florida Department of Environmental Protection (FDEP); therefore, they would require a consistency determination with respect to Florida's Coastal Zone Management Plan under the Federal Coastal Zone Management Act (CZMA) (Appendix B, *Coastal Zone Management Act Consistency Determination*).

Per Executive Order 11988, *Floodplain Management*, and Executive Order 11990, *Protection of Wetlands*, the proponent is required to consider action in wetlands or floodplains, coordinating with the 96 CEG/CEIEC Water Resources of Compliance Section for stormwater design, permitting, potential discharges into surface waters from construction activities, and/or final backflow preventer design, if applicable.

Pertaining to stormwater, the Florida Administrative Code (FAC) Rule 62-621 requires construction activities where 1 or more acres of land are disturbed to be permitted under a Generic Permit for Stormwater Discharge from Large and Small Construction Activities, which requires a comprehensive Stormwater, Erosion, and Sedimentation Control Plan and a Storm Water Pollution Prevention Plan in the final plan design (Clean Water Act [CWA] National Pollutant Discharge Elimination System [NPDES]). Also FAC Rule 62-346 requires an application for Stormwater Discharge Permits with stormwater retention or design, prior to any ground-disturbing activities.

Pertinent federal wastewater regulations are CWA-NPDES Title 40 Code of Federal Regulations Part 22 (40 CFR 22) and 49 CFR 403 permitting general pretreatment programs and categorical effluent limitations (including limitation for pretreatment of direct discharges). Florida Statutes (Title 23, Section 403) for the Florida Air and Water Pollution Control Act govern industrial and domestic wastewater discharges in the state. The implementing state regulations in FAC 62

establish water quality standards and regulate domestic wastewater facility management and industrial waste treatment.

Drinking water regulations under FAC Chapter 40A-2 and have incorporated federal primary and secondary drinking water standards (Safe Drinking Water Act, 42 United States Code [USC] 201). If consumptive use would exceed currently permitted levels or a new potable water system is required to support proposed actions, a Consumptive Use Permit may require revision or a new Potable Water System Permit may be required.

Several laws and regulations are pertinent to the treatment of cultural resources, such as the National Historic Preservation Act of 1966 (NHPA), as amended, the Archaeological Resources Protection Act of 1979, and Air Force Instruction (AFI) 32-7065, *Cultural Resources Management*, which specifies proper procedures for cultural resource management at Eglin AFB. To comply with Section 106 of the NHPA, the Air Force will consult with the State Historic Preservation Officer (SHPO) in the future if an undertaking is proposed. SHPO concurrence is included in Appendix D, *Cultural Resources*.

1.6 DOCUMENT ORGANIZATION

This EA contains seven chapters. Chapter 1 details the purpose and need for the action and describes the location of the Proposed Action. It also summarizes the scope of the environmental review. Chapter 2 details the Proposed Action alternatives and the No Action Alternative. Chapter 3 describes, in general, the current conditions of the resources that the Proposed Action and alternatives could affect and presents the analysis of the environmental consequences of the Proposed Action and the No Action Alternative. Chapter 4 provides an analysis of cumulative impacts and irreversible and irretrievable commitments of resources. Chapter 5 identifies permitting requirements, mitigations, and management practices for minimizing potential impacts. Chapter 6 lists the preparers of this EA. Chapter 7 lists publications cited in this EA.

2. ALTERNATIVES

2.1 INTRODUCTION

This section introduces the alternatives that are evaluated for potential environmental impacts in this EA. The proposed alternatives are as follows:

- No Action Alternative: Baseline, as defined by the existing condition.
- Alternative 1: Implement projects at Eglin Main Base, Duke Field, Site C-6 20 SPCS Area, 7 SFG(A) Cantonment, and Camp Rudder.
- Alternative 2: Alternative 1 plus a twenty-five percent footprint increase for all projects to be implemented at all five cantonment areas.

2.2 ALTERNATIVES CONSIDERED

A brief description of each alternative is provided below.

2.2.1 No Action Alternative

The No Action Alternative consists of maintaining the current baseline infrastructure and facilities. Under this alternative, none of the Area Development Plans would be implemented for any of the five cantonment areas on Eglin AFB.

2.2.2 Alternative 1: Implement Projects at All Eglin AFB Cantonment Areas

Alternative 1 is defined as authorizing the developments anticipated and proposed in various documents for the five cantonment areas located on Eglin AFB, which include:

- Eglin Main
- Duke Field
- 7 SFG(A) Cantonment
- Camp Rudder
- Site C-6 20 SPCS Area

Eglin Main

The overarching goals of the projects on Eglin Main are to preserve and maximize the efficiency of mission critical infrastructure and facilitate the continued development on Eglin AFB to meet the needs of all Eglin units.

Generally speaking, there are numerous recommended facility construction and improvement projects, as well as transportation and parking improvements. Other goals include maintenance of proper encroachment buffers, such as those to the north and west of Camp Pinchot, and preservation of historic areas. Improved safety is also a goal, as in the proposed rerouting of access roads to the Munitions Storage Area to avoid conflicts.

Duke Field

Alternative 1 includes authorizing the implementation of projects for the Duke Field cantonment area. Changes may be made to maintain compatibility with potential impacts from the Joint Strike Fighter (JSF) operations proposed in the 2005 Base Realignment and Closure (BRAC). Also, the 919th Special Operations Wing (919 SOW) and 413th Flight Test Squadron (413 FTS) are currently undergoing a change in airframe, and the 919 SOW is anticipating significant mission growth in support of the 7 SFG(A). These changes will require construction of new facilities and demolition, as well as changes to the aircraft parking apron and other facilities and roads.

7 SFG(A) Cantonment

Alternative 1 includes authorizing the implementation of anticipated projects for the Army 7 SFG(A) Cantonment located west of Highway 85 on Eglin Reservation. The Army Special Operations Force is a growing mission, and the 7 SFG(A) anticipates continued personnel growth centered on the military intelligence and information dominance fields, allowing the group to be more self-sustaining. Anticipated 7 SFG(A) personnel growth totals up to 3,540 personnel in the coming years; however, a portion of that growth has yet to be approved.

The 7 SFG(A) Cantonment proposes a number of construction development projects to enhance mission readiness, maintain security and low visibility of cantonment operations, implement sustainable design, and enhance the quality of life.

Camp Rudder

Alternative 1 further includes authorizing the implementation of anticipated projects for the U.S. Army 6th Ranger Training Battalion (6 RTB) cantonment area at Camp Rudder in the northwestern portion of the Eglin Reservation. Battalion headquarters, community facilities, and student and cadre barracks would be consolidated in the interior of the cantonment area, creating a walkable campus core for students and instructors. Industrial and operations facilities would be located along the perimeter of the campus core to maximize adjacencies with the Field 6 flightline and surrounding training areas.

Many planned and programmed facilities and transportation improvements are also planned for Camp Rudder.

Site C-6 20 SPCS Area

Alternative 1 would authorize the implementation of expected projects for the 20 SPCS on TA C-6. Site C-6 is the home of the 20 SPCS, a geographically separated unit of the 21st Space Wing, Peterson AFB, Colorado. The primary mission of 20 SPCS is tracking man-made space objects using radar and other systems. Necessary facility modernization and internal space renovations, site improvements, and utility upgrades have been identified.

Notional Facilities Summary

To conduct a quantitative analysis that would still allow for the most flexibility in implementation and provide a fence-to-fence environmental impacts analysis, it was necessary to develop notional footprints of facilities and infrastructure to be constructed or demolished. To do this, Area Development Plans and other documents were used. However, because varying levels of detail were available at each cantonment area, certain assumptions were made to provide a conservative footprint for analysis. A summary of the facilities and infrastructure to be implemented under Alternative 1 is provided in Table 2-1.

Table 2-1. Alternative 1 Proposed Facilities for Each Cantonment Area

| | Total Area Disturbed (acres) | Facilities Construction (square feet) | Parking/ Impervious (acres) | Roads/ Infrastructure (acres) | Demolition (square feet) |
|---------------------|-------------------------------------|--|------------------------------------|--------------------------------------|---------------------------------|
| Eglin Main | 292 | 825,525 | 102 | 29 | 116,119 |
| Duke Field | 162 | 409,368 | 62 | 18 | 20,468 |
| 7 SFG(A) Cantonment | 33 | 183,081 | 3 | 3 | 9,154 |
| Camp Rudder | 49 | 130,680 | 17 | 18 | 6,534 |
| C-6 20 SPCS | 3 | 8,067 | 1 | 0 | 403 |

7 SFG(A) = 7th Special Forces Group (Airborne); 20 SPCS = 20th Space Control Squadron

2.2.3 Alternative 2: Alternative 1 Plus a Twenty-Five Percent Footprint Increase for All Projects

Alternative 2 is defined as authorizing the developments anticipated and proposed in various documents for the five cantonment areas located on Eglin AFB as discussed under Alternative 1 plus increasing the project footprints at all cantonment areas. A summary of the facilities and infrastructure to be implemented under Alternative 2 is provided in Table 2-2.

Table 2-2. Alternative 2 Proposed Facilities for Each Cantonment Area

| | Total Area Disturbed (acres) | Facilities Construction (square feet) | Parking/ Impervious (acres) | Roads/ Infrastructure (acres) | Demolition (square feet) |
|---------------------|-------------------------------------|--|------------------------------------|--------------------------------------|---------------------------------|
| Eglin Main | 365 | 1,031,906 | 128 | 36 | 145,149 |
| Duke Field | 203 | 511,710 | 78 | 23 | 25,585 |
| 7 SFG(A) Cantonment | 41 | 228,851 | 4 | 4 | 11,443 |
| Camp Rudder | 61 | 130,680 | 17 | 18 | 6,534 |
| C-6 20 SPCS | 4 | 10,084 | 1 | 0 | 504 |

7 SFG(A) = 7th Special Forces Group (Airborne); 20 SPCS = 20th Space Control Squadron

2.3 COMPARISON OF ALTERNATIVES

Potential impacts under each alternative are summarized in Table 2-3.

Table 2-3. Summary of Impacts

| Resource Area | No Action Alternative | Alternative 1 | Alternative 2 |
|-------------------------------|--|---|---------------|
| Air Quality | Under the No Action Alternative, C&D activities would not take place. There would be no increased emissions and no impacts on the baseline emissions for the ROI. | Although C&D emissions would increase temporarily, there would be no major impacts on air quality associated with Alternative 1 or Alternative 2. | |
| Biological Resources | Under the No Action Alternative, there would be no significant impacts on biological resources. The proposed projects would not be constructed, the degree of human presence would not change, no habitat would be disturbed, and no trees would be removed. Wildlife use of the area would not change compared with current conditions. | There would be no significant impacts on biological resources. Construction could result in a loss of habitat at the cantonment areas. Land clearing and daily operations may have a localized effect on native terrestrial wildlife; however, these species would either move to another location or remain within the area and utilize remaining foliage for habitat. In addition, the proposed area represents only a small percentage of the total land area that Eglin maintains. Gopher tortoise surveys would be conducted prior to construction, as necessary, and any tortoises currently at the site would be relocated along with any commensals, so there would be no significant impact on threatened and endangered species. | |
| Hazardous Materials and Waste | Under the No Action Alternative, the proposed C&D would not occur, and there would be no impact on hazardous materials or waste. No additional solid waste would be generated. ERP sites would not be disturbed. There would be no impact on hazardous materials or waste. | <p>Hazardous Materials Management – No adverse impacts related to hazardous materials are anticipated from implementation of Alternative 1 or Alternative 2.</p> <p>Hazardous Waste Management – Construction/demolition of some of buildings could result in the production of minor amounts of lead-based paint or asbestos wastes. Hazardous and nonhazardous waste would be generated as a result of C&D activities. Management of hazardous waste would be performed according to prescribed procedures already in place. Thus, no change to permits, hazardous waste generator status, or management procedures would be required and no adverse environmental impacts are anticipated.</p> <p>ERP Sites – Development on or near any ERP sites on Eglin AFB would be coordinated with the Eglin Environmental Office, the U.S. Environmental Protection Agency, the Florida Department of Environmental Protection, and other relevant stakeholders, as required. No adverse impacts related to ERP issues are anticipated from implementation of the alternatives.</p> | |

Table 2-3. Summary of Impacts, Cont'd

| Resource Area | No Action Alternative | Alternative 1 | Alternative 2 |
|--|---|---|---------------|
| Noise | None of the proposed development activities would occur, so there would be no additional construction noise generated. Noise would remain at baseline levels. | Aircraft noise would be considered in the siting of facilities and appropriate procedures and/or sound attenuation measures would be implemented in planning and construction. Construction noise would be temporary and localized to the area immediately surrounding the construction sites. While noise from construction activities may be audible at nearby workplaces and residences, overall noise impacts would be expected to be minor and would be temporary in nature. | |
| Safety | Cantonment area development projects would not be implemented, and would therefore have no impact on safety. | Any new munitions storage facilities would require Explosive Site Plan packages to be submitted in accordance with Air Force Manual 91-201, <i>Explosives Safety Standards</i> . Other facilities would be sited with consideration for existing Explosives Safety Quantity Distance arcs and Surface Danger Zones. Facilities sited in areas of possible or probable unexploded ordnance would coordinate with 96 TW/SE, 96 TW/RANSS, and 96 CES/CESD and surveys conducted as required. Any facilities proposed to be constructed or altered within the Clear Zones or Accident Potential Zones would be sited and constructed in accordance with U.S. Department of Defense Instruction 4165.57, <i>Air Installation Compatible Use Zones</i> . No unique construction practices or materials would be required to construct facilities. During C&D, standard industrial safety standards and best management practices would be followed. There would be no adverse impacts on safety. | |
| Socioeconomics and Environmental Justice | Under the No Action Alternative, the proposed C&D projects would not be implemented and there would be no impacts on socioeconomics or disproportionate adverse impacts or risks to minorities or children. | Construction projects would generate additional employment in the local region, particularly in the construction industry. It is possible that construction workers may migrate to the area. However, with the current capacity in the construction industry, it is anticipated that construction positions would be filled by local workers. The construction activities and revenues would generate temporary beneficial impacts on employment and economic activity in the ROI. No disproportionate adverse impacts or risks to minorities or children are anticipated as a result of C&D activities. | |
| Utilities | There would be no significant impacts on existing utilities under the No Action Alternative. | An increase in electricity, potable water, and natural gas usage would be likely to occur, but usage would still be within permitted limits and could be accommodated without adverse impact on the electrical or natural gas supply in northwest Florida. Existing wastewater treatment plants would not have difficulty accommodating the additional flow from cantonment areas. New utilities infrastructure would be likely to be required for some projects sites. However, construction on the existing cantonment areas would provide adequate existing infrastructure from which to branch off. | |

Table 2-3. Summary of Impacts, Cont'd

| Resource Area | No Action Alternative | Alternative 1 | Alternative 2 |
|--------------------|---|---|---------------|
| Water Resources | Under the No Action Alternative, the proposed development would not occur; thus, potential degraded stormwater quality from tree clearing and construction activities and surface and subsurface stabilization improvements would not occur and would not indirectly impact nearby water. | Under both action alternatives, the potential for indirect impacts on water resources (sediment transport by stormwater from the proposed sites to any nearby surface waters) would be minimized. The Air Force would adhere to permitting requirements, implementing a site-specific Stormwater Pollution Prevention Plan. | |
| Soil | Under the No Action Alternative, proposed C&D would not be implemented, causing no impact on soil resources. | Under both action alternatives, soil quality would be impacted (at least temporarily) during the land clearing, site preparation, and construction activities within the cantonment areas. Eglin AFB management policies and permitting requirements would implement erosion and sediment controls at construction sites to minimize impact on soil resources. | |
| Cultural Resources | Under the No Action Alternative, proposed C&D would not be implemented, causing no impact on cultural resources. | Any construction plans or other project activities for this area would take into account cultural, archaeological sites, and historic structures. The proponent would coordinate with the 96 CEG/CEIEA Cultural Resources Office and would follow the applicable policies and procedures in the Eglin AFB <i>Integrated Cultural Resources Management Plan</i> , including subsequent planning and implementation of mitigations if required. | |

96 CEG/CEIEA = 96th Civil Engineer Group/Environmental Assets; 96 CES/CESD = 96th Civil Engineering Squadron/Explosive Ordnance Disposal Squadron; 96 TW/RANSS = 96th Test Wing Range Support Squadron; 96 TW/SE = 96th Test Wing/Safety Office; AFB = Air Force Base; C&D = construction and demolition; ERP = Environmental Restoration Program; ROI = region of influence

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 CONSTRAINTS ANALYSIS

A primary objective of this document was to look at the existing constraints to development on the five cantonment areas and to help identify areas where future development would be appropriate and least intrusive to the existing natural and human environment. This analysis utilized geographic information systems (GIS) to identify where both constrained and unconstrained areas occur within the five cantonment areas.

In doing this, it was noted that there are two types of constraints that may affect the future development of cantonment areas on Eglin AFB: environmental constraints and land use constraints. It is important to make this distinction. Those constraints classified as environmental are, generally speaking, associated with the physical environment and often fall under external regulations such as the Endangered Species Act (ESA) or the Clean Water Act (CWA). These types of constraints would typically require avoidance as there is potential to disturb something occurring in the environment. Often a strict agency coordination or permitting process would be required to construct or demolish facilities or infrastructure in areas where environmental constraints occur.

Land use constraints, on the other hand, are generally associated with internal restrictions or guidelines such as an Air Force instruction or an installation policy. Often these types of constraints are related to a safety buffer or similar theoretical constraint. In many cases, there are certain types of military facilities that would neither impact land use constraints nor be adversely impacted if they were to be constructed in an area of an existing land use constraint.

3.1.1 Environmental Constraints

The Air Force identified the following environmental constraints:

- Wetlands
- 100-year floodplain
- Historic district area
- Historic structures
- Cultural restricted area
- Potential flatwoods salamander habitat and associated buffer
- High quality ecological area
- RCW active/inactive cavity trees
- RCW foraging habitat
- Active ERP/Area of Concern (AOC) sites

Figure 3-1 through Figure 3-5 show the environmentally constrained areas within each of the cantonment areas. This EA would not authorize any proposed activity that would occur in an environmentally constrained area without the need for additional evaluation under NEPA and compliance with any and all other applicable regulations.



Figure 3-1. Eglin Main Base Environmental Constraints

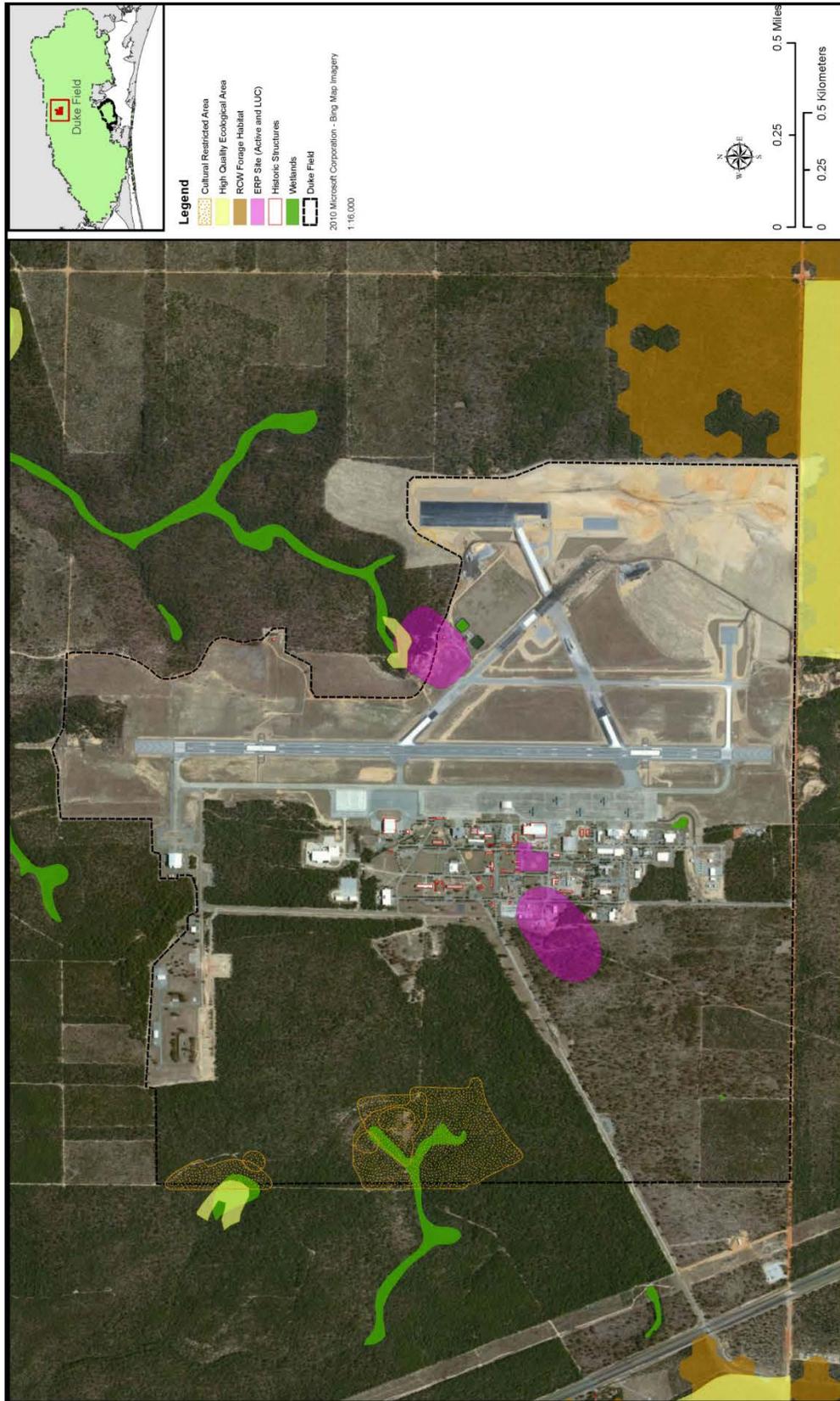


Figure 3-2. Duke Field Environmental Constraints

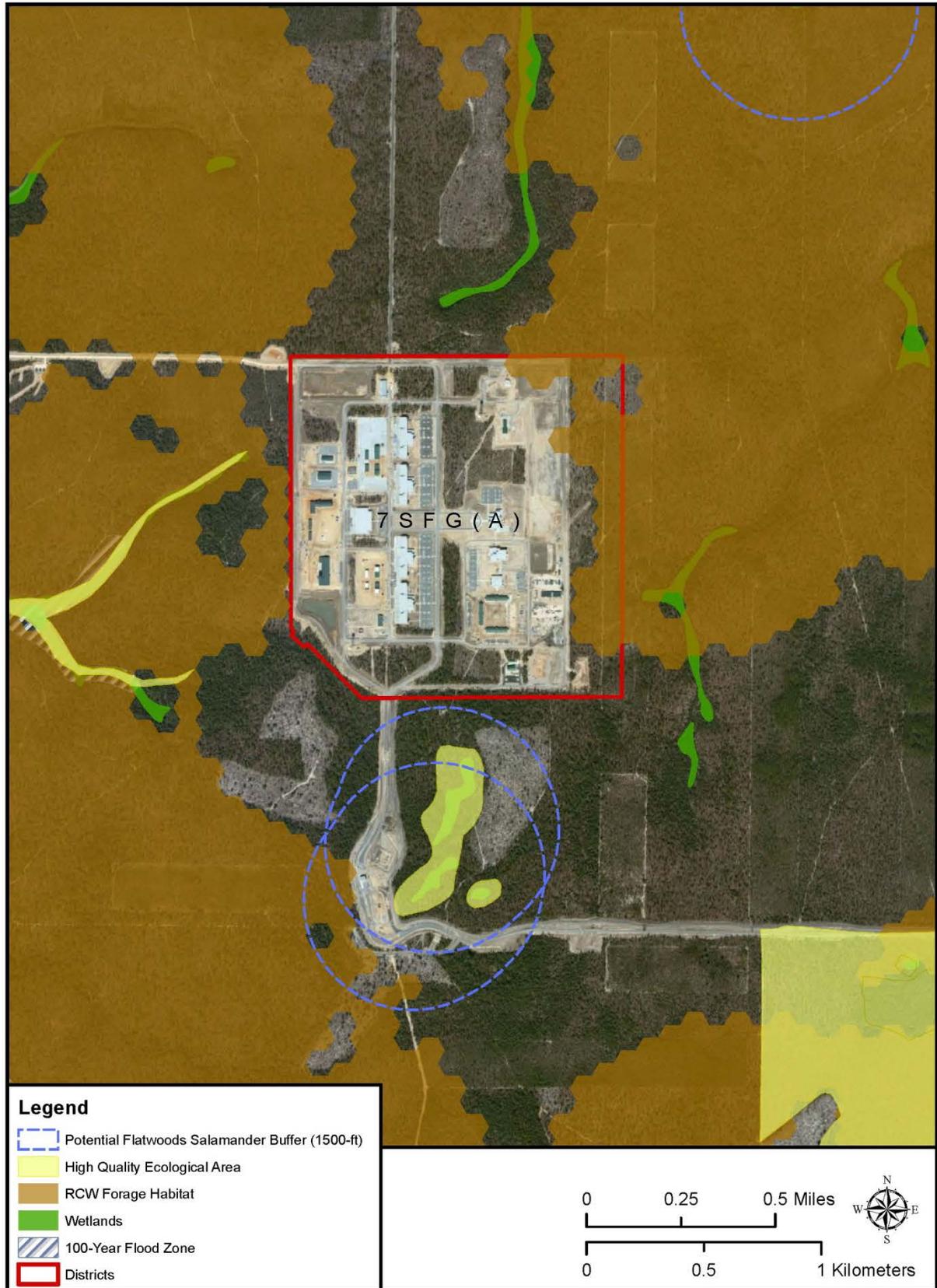


Figure 3-3. 7 SFG(A) Cantonment Environmental Constraints

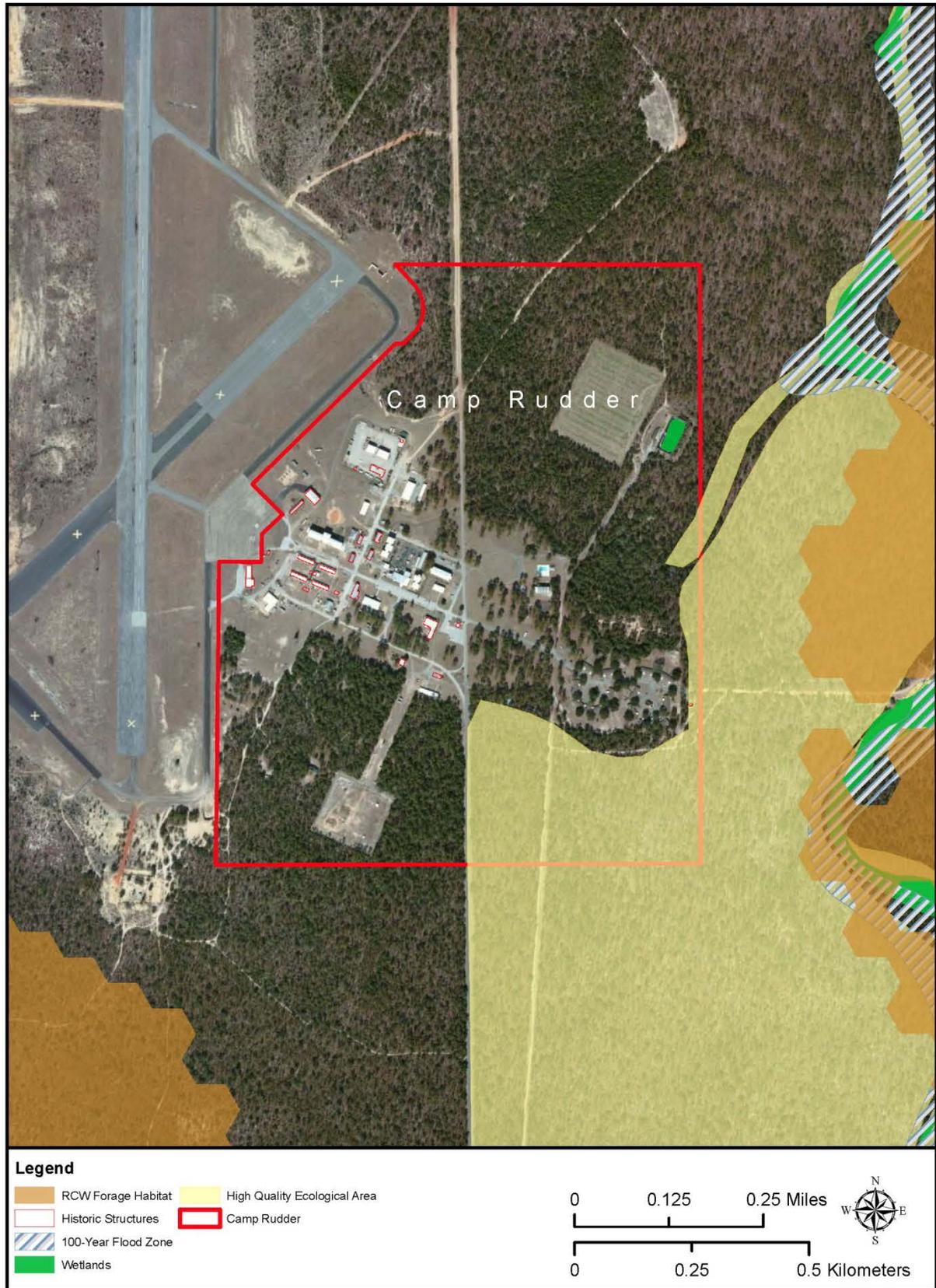


Figure 3-4. Camp Rudder Environmental Constraints



Figure 3-5. Site C-6 20 SPCS Area Environmental Constraints

3.1.2 Land Use Constraints

The Air Force identified the following land use constraints:

- Probable or possible unexploded ordnance (UXO)
- Airfield Clear Zones (CZ) and Accident Potential Zones (APZ)
- Explosives Safety Quantity Distance (ESQD) arcs
- Military Surface Danger Zones (SDZs)
- Live-fire ranges
- Aircraft noise contours

Figure 3-6 through Figure 3-10 show the land use constrained areas within each of the five cantonment areas. With proper coordination and conformance with Air Force and installation-specific requirements, some development activities may take place in areas where land use constraints occur.



Figure 3-6. Eglin Main Base Land Use Constraints

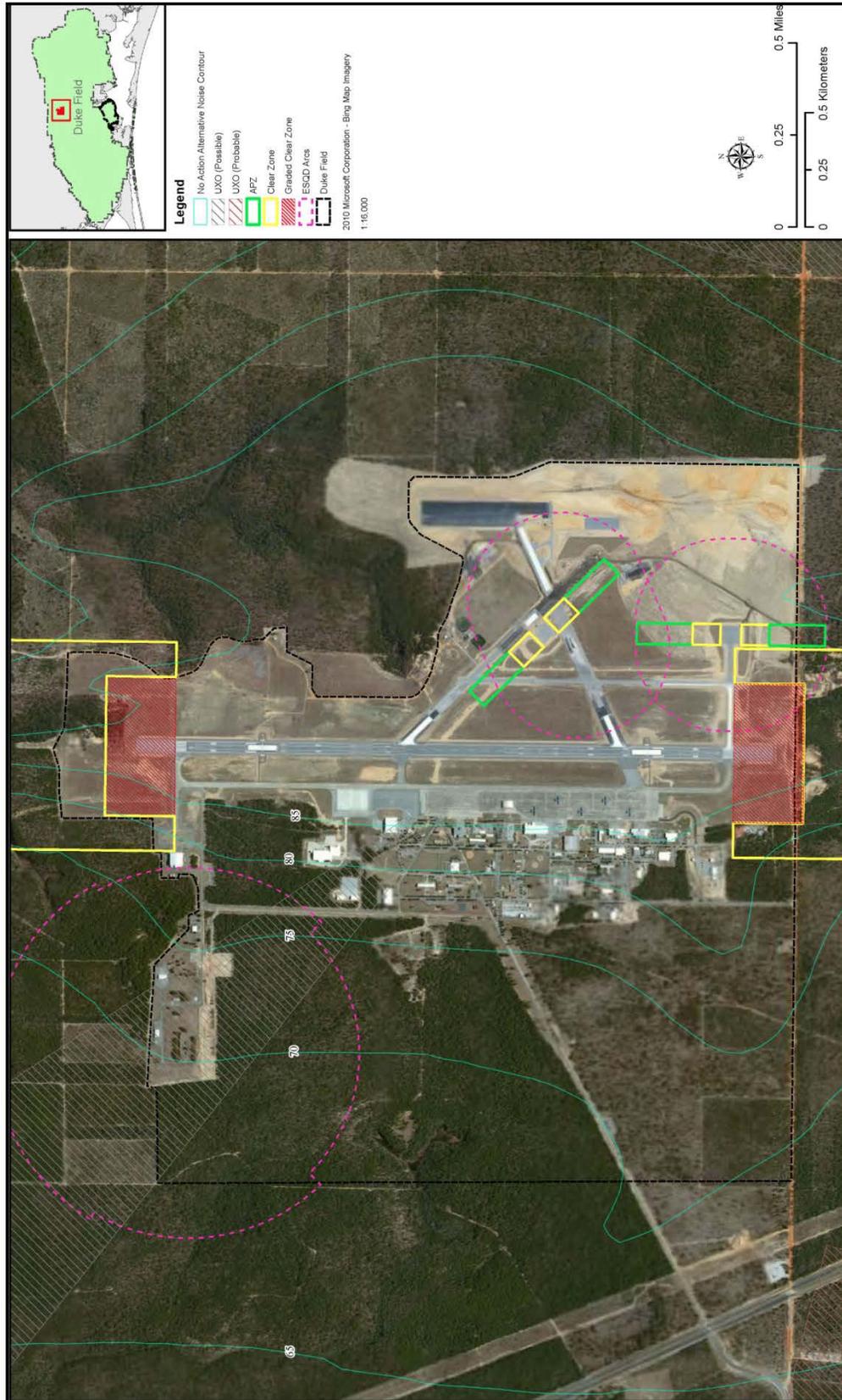


Figure 3-7. Duke Field Land Use Constraints



Figure 3-8. 7 SFG(A) Cantonment Land Use Constraints



Figure 3-9. Camp Rudder Land Use Constraints

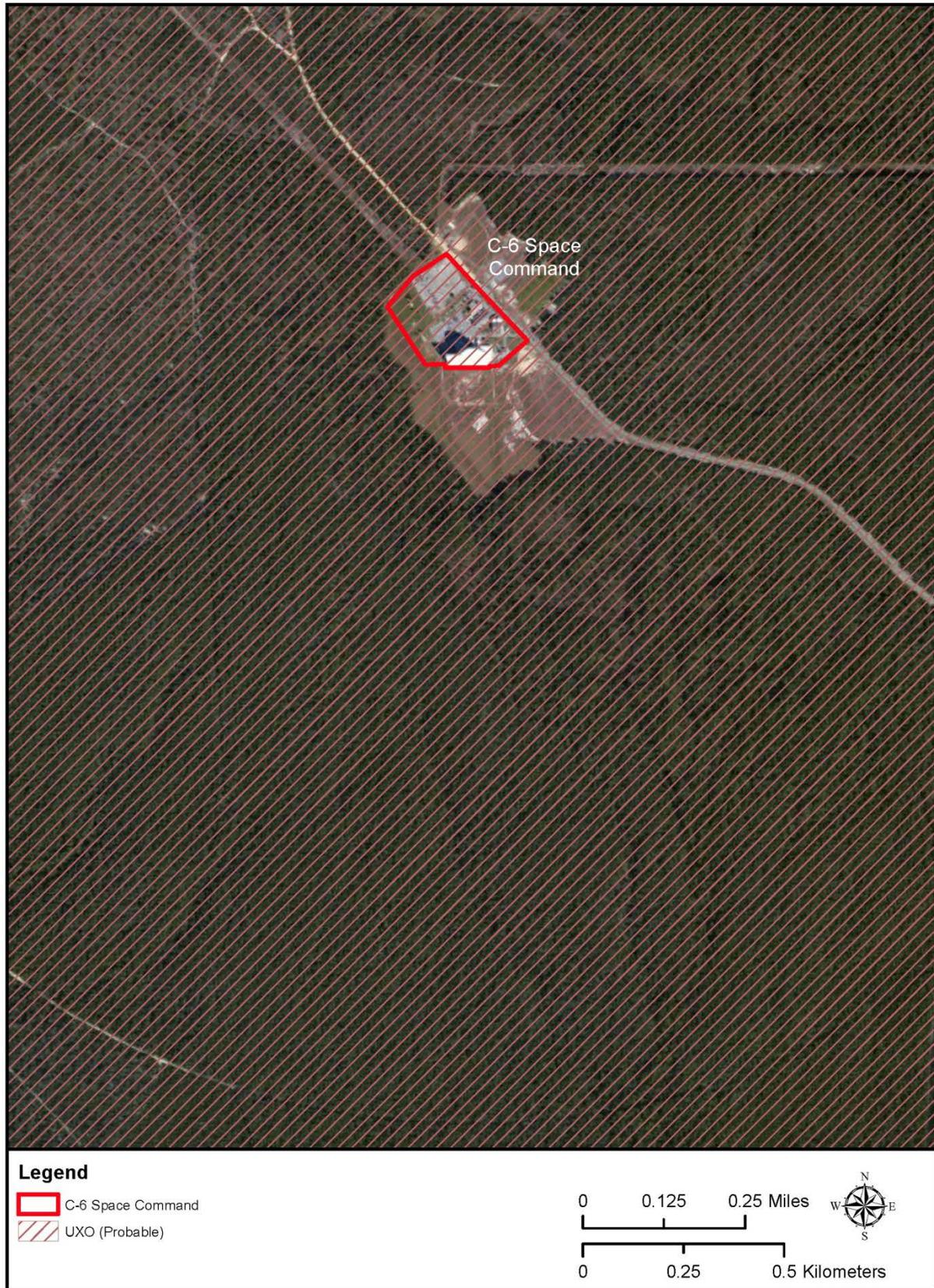


Figure 3-10. Site C-6 20 SPCS Area Land Use Constraints

3.2 AIR QUALITY

3.2.1 Definition

Air quality is determined by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. The levels of pollutants are generally expressed on a concentration basis in units of parts per million (ppm) or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

The baseline standards for pollutant concentrations are the National Ambient Air Quality Standards (NAAQS) and state air quality standards. These standards represent the maximum allowable atmospheric concentration that may occur and still protect public health and welfare (Table 3-1). Based on measured ambient air pollutant concentrations, the U.S. Environmental Protection Agency (USEPA) designates whether areas of the United States meet the NAAQS. Those areas demonstrating compliance with the NAAQS are considered “attainment” areas, while those areas not in compliance are known as “nonattainment” areas. Those areas that cannot be classified on the basis of available information for a particular pollutant are “unclassifiable” and are treated as attainment areas until proven otherwise.

3.2.2 Affected Environment

Baseline Emissions

For this air quality analysis, the ROI includes Okaloosa, Walton, and Santa Rosa Counties. All three counties are classified as attainment areas, as are all counties within Florida (other than the Tampa-St. Petersburg-Clearwater metropolitan area in Hillsborough and Pinellas Counties) (USEPA, 2013). Eglin currently operates under Title V Air Operating Permit number 0910031-017-AV issued May 26, 2014.

An air emissions inventory describes the amount of emissions from a facility or within an area. Emissions inventories locate pollution sources, define the type and size of sources, characterize emissions from each source, and estimate total mass emissions generated over a period of time, normally a year. These annual rates are typically represented in tons per year. Inventory data establish relative contributions to air pollution concerns by classifying sources and determining the adequacy, as well as necessity, of air regulations. Accurate inventories are imperative for development of appropriate air quality regulatory policy. These inventories include stationary sources and encompass equipment/processes such as boilers, electric generators, surface coating, and fuel handling operations. Mobile sources include motor vehicles, aerospace ground support equipment, and aircraft operations.

Table 3-1. National Ambient Air Quality Standards

| Pollutant [final rule citation] | | Primary/ Secondary | Averaging Time | Level | Form |
|--|-------------------|-----------------------|-------------------------|---------------------------------------|---|
| Carbon Monoxide [76 FR 54294, 31 Aug 2011] | | primary | 8-hour | 9 ppm | Not to be exceeded more than once per year |
| | | | 1-hour | 35 ppm | |
| Lead [73 FR 66964, 12 Nov 2008] | | primary and secondary | Rolling 3-month average | 0.15 µg/m ³ ⁽¹⁾ | Not to be exceeded |
| Nitrogen Dioxide [75 FR 6474, 09 Feb 2010] | | primary | 1-hour | 100 ppb | 98th percentile, averaged over 3 years |
| Nitrogen Dioxide [61 FR 52852, 08 Oct 1996] | | primary and secondary | Annual | 53 ppb ⁽²⁾ | Annual mean |
| Ozone [73 FR 16436, 27 Mar 2008] | | primary and secondary | 8-hour | 0.075 ppm ⁽³⁾ | Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years |
| Particle Pollution 14 December 2012 | PM _{2.5} | primary | Annual | 12 µg/m ³ | Annual mean, averaged over 3 years |
| | | secondary | Annual | 15 µg/m ³ | Annual mean, averaged over 3 years |
| | | primary and secondary | 24-hour | 35 µg/m ³ | 98th percentile, averaged over 3 years |
| | PM ₁₀ | primary and secondary | 24-hour | 150 µg/m ³ | Not to be exceeded more than once per year on average over 3 years |
| Sulfur Dioxide [75 FR 35520, 22 Jun 2010] | | primary | 1-hour | 75 ppb ⁽⁴⁾ | 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years |
| Sulfur Dioxide [38 FR 25678, 14 Sept 1973] | | secondary | 3-hour | 0.5 ppm | Not to be exceeded more than once per year |

Source: USEPA, 2012

FR = *Federal Register*; µg/m³ = microgram per cubic meter; PM_{2.5}/PM₁₀= particulate matter with a diameter of less than or equal to 2.5 or 10 microns, respectively; ppb = parts per billion; ppm = parts per million; USEPA = U.S. Environmental Protection Agency

1. Final rule signed 15 October 2008. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
2. The official level of the annual nitrogen dioxide standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.
3. Final rule signed 12 March 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, USEPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard (“anti-backsliding”). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.
4. Final rule signed 2 June 2010. The 1971 annual and 24-hour sulfur dioxide standards were revoked in that same rulemaking. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

For comparison purposes, the USEPA’s 2008 National Emissions Inventory (NEI) data for Okaloosa, Walton, and Santa Rosa Counties are presented in Table 3-2. The county data include emissions amounts from point sources (a stationary source that can be identified by name and location), non-point sources (a point source whose emissions are too small to track individually, such as a home or small office building, or a diffuse stationary source, such as wildfires or agricultural tilling), and mobile sources (any kind of vehicle or equipment with gasoline or diesel engine, airplane, or ship) (USEPA, 2008).

Table 3-2. Region of Influence Baseline Emissions Inventory

| Source Type | Emissions (tons/year) | | | | | |
|---|-----------------------|-----------------|-----------------|--------|------------------|-------------------|
| | CO | NO _x | SO _x | VOCs | PM ₁₀ | PM _{2.5} |
| Point, non-point, and mobile source emissions | 66,216 | 8,164 | 297 | 46,912 | 9,335 | 3,338 |

Source: USEPA, 2008

CO = carbon monoxide; NO_x = nitrogen oxides; PM_{2.5}/PM₁₀ = particulate matter with a diameter of less than or equal to 2.5 or 10 microns, respectively; SO_x = sulfur oxides; VOC = volatile organic compound

In the past, a combination of the Clean Air Act Prevention of Significant Deterioration Rule’s 250-ton-per-year threshold for new or modified stationary sources and the General Conformity Rule’s regional significance threshold of 10 percent of the region’s emissions has often been used to indicate significance/nonsignificance for air quality impacts. However, the USEPA recently promulgated a revised General Conformity Rule that abolished the regional significance threshold for federal actions in nonattainment or maintenance areas (“Revisions to the General Conformity Regulations,” *75 Federal Register* 17254, 5 April 2010). Given that change, as well as other considerations, a slightly different methodology is being used for this EA.

To evaluate air emissions and their impact on the ROI, the emissions associated with the project activities were compared with the total emissions on a pollutant-by-pollutant basis for the ROI’s 2008 NEI data. Potential impacts to air quality were evaluated with respect to the extent, context, and intensity of the impact in relation to relevant regulations, guidelines, and scientific documentation. The Council on Environmental Quality (CEQ) defines significance in terms of context and intensity (40 CFR 1508.27). Thus, the significance of the action must be analyzed in respect to the setting of the Proposed Action and relative to the severity of the impact. The CEQ NEPA regulations (40 CFR 1508.27[b]) provide 10 key factors to consider in determining an impact’s intensity.

To provide for a more conservative analysis, the three-county region was selected as the ROI instead of the USEPA-designated air quality control region, which is a much larger area. To identify impacts, calculated air emissions were compared with the annual total emissions of Okaloosa County as represented in the 2008 NEI. The air quality analysis focused on emissions associated with C&D activities.

Greenhouse Gas

Greenhouse gases are chemical compounds in the Earth’s atmosphere that trap heat. Gases exhibiting greenhouse properties come from both natural and man-made sources. Water vapor, carbon dioxide (CO₂), methane, and nitrous oxide are examples of greenhouse gases that have both natural and man-made sources, while other gases such as those used for aerosols are exclusively man-made. In the United States, greenhouse gas emissions come mostly from energy use. These are driven largely by economic growth, fuel used for electricity generation, and weather patterns affecting heating and cooling needs. Energy-related CO₂ emissions resulting principally from petroleum and natural gas represent over 80 percent of total U.S. man-made greenhouse gas emissions (U.S. Energy Information Administration, 2009).

3.2.3 Environmental Consequences

This section discusses the potential impacts to air quality as a result of implementing the Proposed Action and Alternatives. Emissions associated with construction and demolition, including combustive emissions from heavy machinery, tools, and generators, as well as worker trips, would be the main contributors to air quality effects.

The Air Force Air Conformity Applicability Model (ACAM) was used to determine if the different alternatives would constitute a significant impact for ROI emissions on an individual pollutant basis. As discussed in Section 3.2.2, the context and intensity of the emissions resulting under the Proposed Action were evaluated by comparison to the total ROI emissions for each pollutant. Although a conformity determination is not required, since Okaloosa, Walton, and Santa Rosa Counties are designated “attainment,” the ACAM provides a level of consistency with respect to emissions factors and calculations.

3.2.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. There would be no increased emissions and no impacts to the baseline emissions for the ROI under this alternative.

3.2.3.2 Alternative 1

Alternative 1 would include grading, structure construction and demolition, and paving of parking areas and roads. These operations would also include construction worker trips and stationary equipment (e.g., generators and saws), mobile equipment, and architectural coatings. Construction emissions are mainly related to fossil fuel combustion during use of machinery and fugitive dust emissions from ground disturbance and other physical disturbances.

As indicated in Table 3-3, the individual pollutant emissions from this action would not exceed 7.10 percent of the total ROI emissions for each corresponding pollutant. The pollutants with the highest percentages are PM₁₀ and NO_x, which are approximately 7.10 percent and 0.16 percent of the ROI's total PM₁₀ and NO_x emissions, respectively, based on the USEPA 2008 NEI. Therefore, there would be no major impacts to air quality associated with implementation of Alternative 1.

Alternative 1 would include combustion of fossil fuels, which would lead to increased greenhouse gas emissions. However, the CEQ recommended that emissions equal to or greater than 25,000 metric tons annually should be included in NEPA assessments (CEQ, 2010). Project C&D emissions from fossil fuel combustion would not approach 25,000 metric tons. Thus, no major impacts to local or regional air quality would result from activities at Eglin AFB associated with implementation of Alternative 1.

Table 3-3. Alternative 1 Emissions

| Source | Emission (tons/year) Alternative 1 | | | | | |
|---------------------------------|------------------------------------|-----------------|------------------|-------------------|-----------------|--------------|
| | CO | NO _x | PM ₁₀ | PM _{2.5} | SO _x | VOCs |
| Eglin Main | 3.71 | 6.72 | 179.75 | 0.00 | 0.02 | 9.79 |
| Duke Field | 1.84 | 3.33 | 179.01 | 0.00 | 0.01 | 4.85 |
| 7 SFG(A) | 0.82 | 1.49 | 118.09 | 0.00 | 0.00 | 2.17 |
| Camp Rudder | 0.72 | 1.31 | 175.27 | 0.00 | 0.00 | 1.90 |
| C-6 20 SPCS | 0.04 | 0.07 | 10.73 | 0.00 | 0.00 | 0.10 |
| Total | 7.14 | 12.92 | 662.86 | 0.00 | 0.04 | 18.81 |
| ROI Emissions | 66,216 | 8,164 | 9,335 | 3,338 | 297 | 46,912 |
| <i>Percent of ROI Emissions</i> | <i>0.01</i> | <i>0.16</i> | <i>7.10</i> | <i>0.00</i> | <i>0.01</i> | <i>0.04</i> |

CO = carbon monoxide; NO_x = nitrogen oxides; PM_{2.5}/PM₁₀ = particulate matter less than or equal to 2.5 or 10 microns in diameter, respectively; ROI = region of influence; SO₂ = sulfur dioxide; VOC = volatile organic compound

3.2.3.3 Alternative 2

Alternative 2 would include grading, structure construction and demolition, and paving of parking areas and roads. These operations would also include construction worker trips and stationary equipment (e.g., generators and saws), mobile equipment, and architectural coatings. Construction emissions are mainly related to fossil fuel combustion during use of machinery and fugitive dust emissions from ground disturbance and other physical disturbances.

As indicated in Table 3-4, the individual pollutant emissions from this action would not exceed 7.49 percent of the total ROI emissions for each corresponding pollutant. The pollutants with the highest percentages are PM₁₀ and NO_x, which are approximately 7.49 percent and 0.19 percent of the ROI's total PM₁₀ and NO_x emissions, respectively, based on the USEPA 2008 NEI. Therefore, there would be no major impacts to air quality associated with implementation of Alternative 2.

Table 3-4. Alternative 2 Emissions

| Source | Emission (tons/yr) Alternative 2 | | | | | |
|---------------------------------|----------------------------------|-----------------|------------------|-------------------|-----------------|--------------|
| | CO | NO _x | PM ₁₀ | PM _{2.5} | SO _x | VOCs |
| Eglin Main | 4.64 | 8.40 | 180.00 | 0.00 | 0.03 | 12.23 |
| Duke Field | 2.30 | 4.17 | 179.08 | 0.00 | 0.01 | 6.07 |
| 7 SFG(A) | 1.03 | 1.86 | 146.72 | 0.00 | 0.01 | 2.71 |
| Camp Rudder | 0.59 | 1.06 | 178.83 | 0.00 | 0.00 | 1.55 |
| C-6 20 SPCS | 0.05 | 0.08 | 14.31 | 0.00 | 0.00 | 0.12 |
| Total | 8.60 | 15.58 | 698.94 | 0.00 | 0.05 | 22.68 |
| ROI Emissions | 66,216 | 8,164 | 9,335 | 3,338 | 297 | 46,912 |
| <i>Percent of ROI Emissions</i> | <i>0.01</i> | <i>0.19</i> | <i>7.49</i> | <i>0.00</i> | <i>0.02</i> | <i>0.05</i> |

CO = carbon monoxide; NO_x = nitrogen oxides; PM_{2.5}/PM₁₀ = particulate matter less than or equal to 2.5 or 10 microns in diameter, respectively; SO₂ = sulfur dioxide; VOC = volatile organic compound

Alternative 2 would include combustion of fossil fuels, which would lead to increased greenhouse gas emissions. However, the CEQ recommended that emissions equal to or greater than 25,000 metric tons annually should be included in NEPA assessments (CEQ, 2010). Project C&D emissions from fossil fuel combustion would not approach 25,000 metric tons. Thus, no major impacts to local or regional air quality would result from activities at Eglin AFB associated with implementation of Alternative 2.

3.3 BIOLOGICAL RESOURCES

3.3.1 Definition

Biological resources at the proposed and alternative sites include terrestrial plant and animal species, as well as the habitats that support these species. Sensitive species are those species protected under federal or state law, and include migratory birds and threatened and endangered species. An endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is any species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

3.3.2 Affected Environment

Actions associated with the Proposed Action would occur within all five Eglin Air Force Base cantonment areas. Eglin Air Force Base is primarily characterized by four broad matrix ecosystems: Sandhills, Flatwoods, Wetlands/Riparian, and Barrier Island (Figure 3-11 through Figure 3-14). Artificially maintained open grasslands/shrublands and urban/landscaped areas also exist. Most of the areas where development would occur are generally characterized as urban/landscaped since the cantonment areas have been previously developed. A portion of the native habitat has been modified by past activities, including construction and demolition of facilities.

Longleaf pine (*Pinus palustris*), which is used by the RCW (*Picoides borealis*), occurs on the cantonment areas. Documented RCW foraging habitat has also been identified on cantonment areas. The RCW is listed as endangered under the ESA of 1973. Potential habitat of the federally endangered flatwoods salamander (*Ambystoma bishopi*) exists on or near some cantonment areas. Reptile species of concern that may occur on or near cantonment areas include the eastern indigo snake (*Drymarchon corais couperi*), Florida pine snake (*Pituophis melanoleucus*), and the gopher tortoise (*Gopherus polyphemus*). Florida black bears (*Ursus americanus floridanus*) have been documented within cantonment areas (U.S. Air Force, 2011). Some cantonment areas have trees, large shrubs, and other vegetation that could provide habitat for birds, including migratory birds.

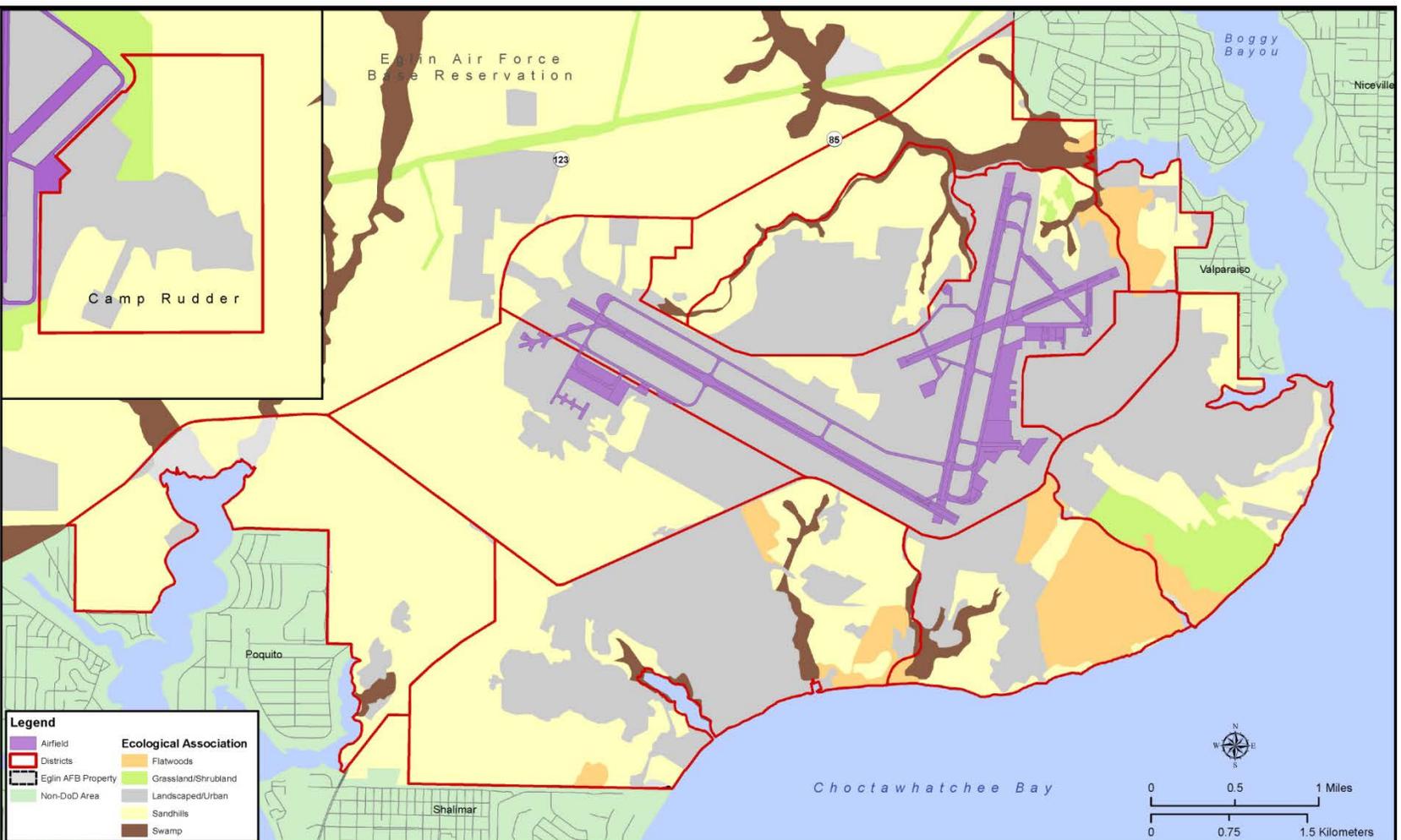


Figure 3-11. Ecological Associations at Eglin Main and Camp Rudder

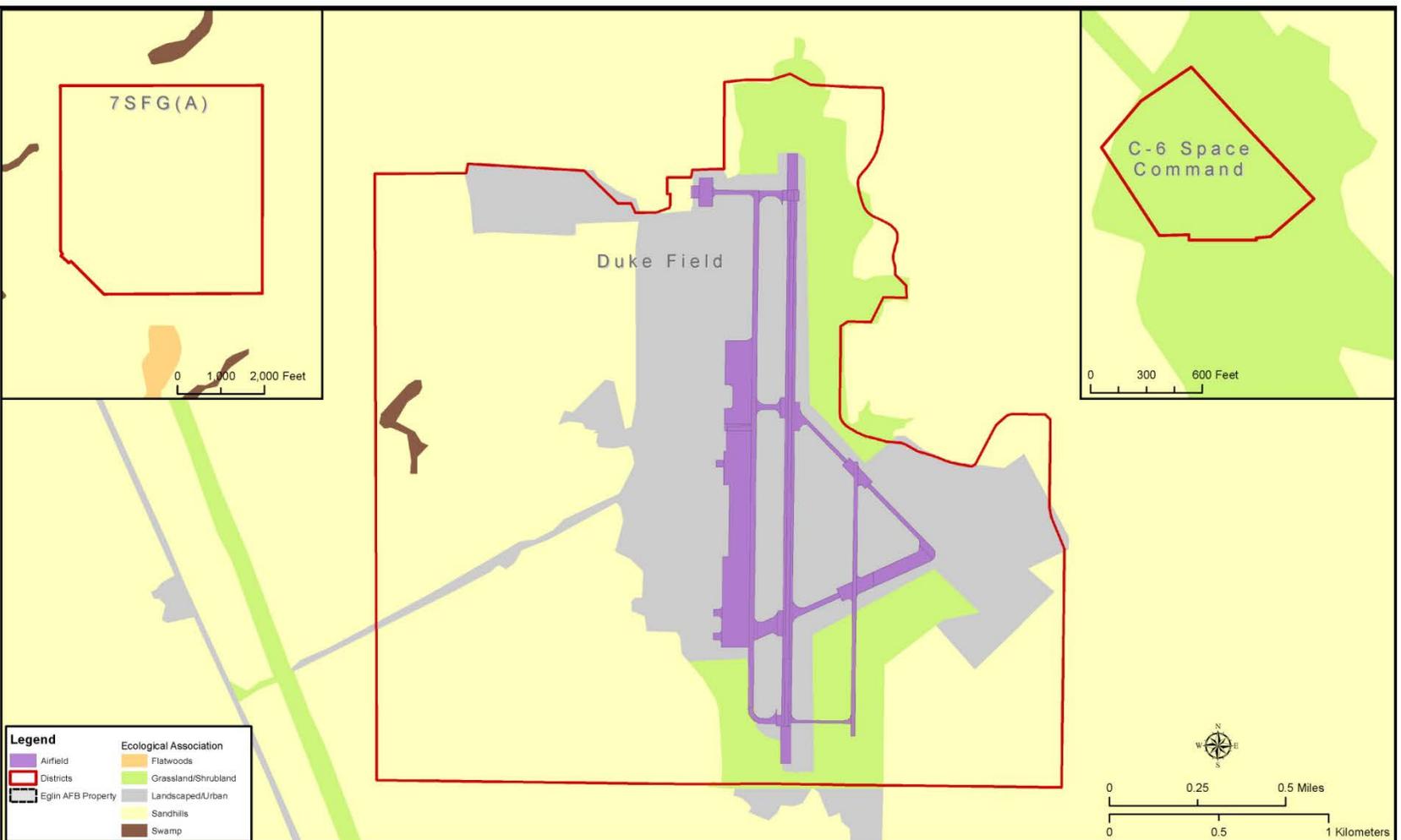


Figure 3-12. Ecological Associations at Duke Field, 7 SFG(A) Cantonment, and Site C-6 20 SPCS

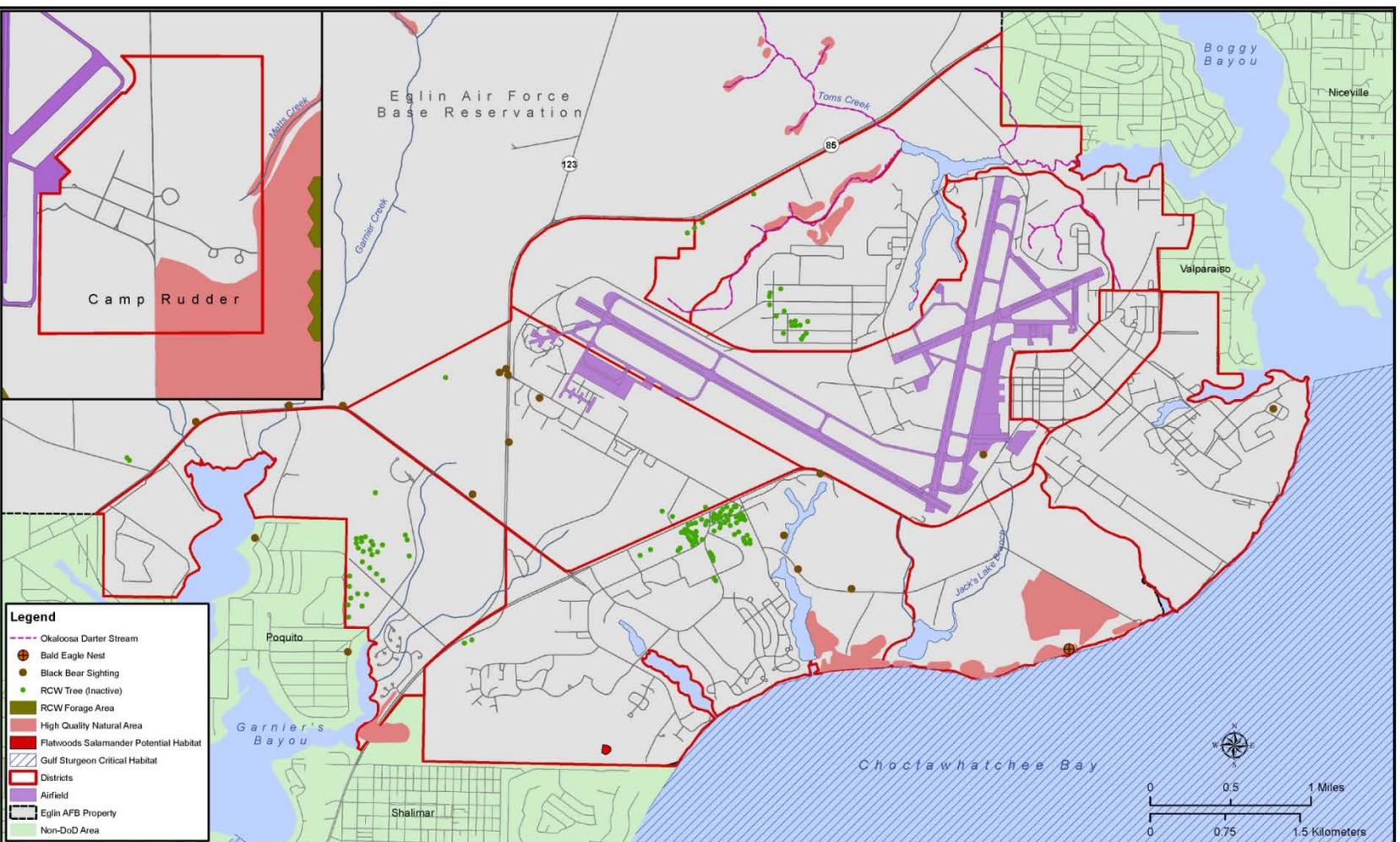


Figure 3-13. Biological Resources at Eglin Main and Camp Rudder

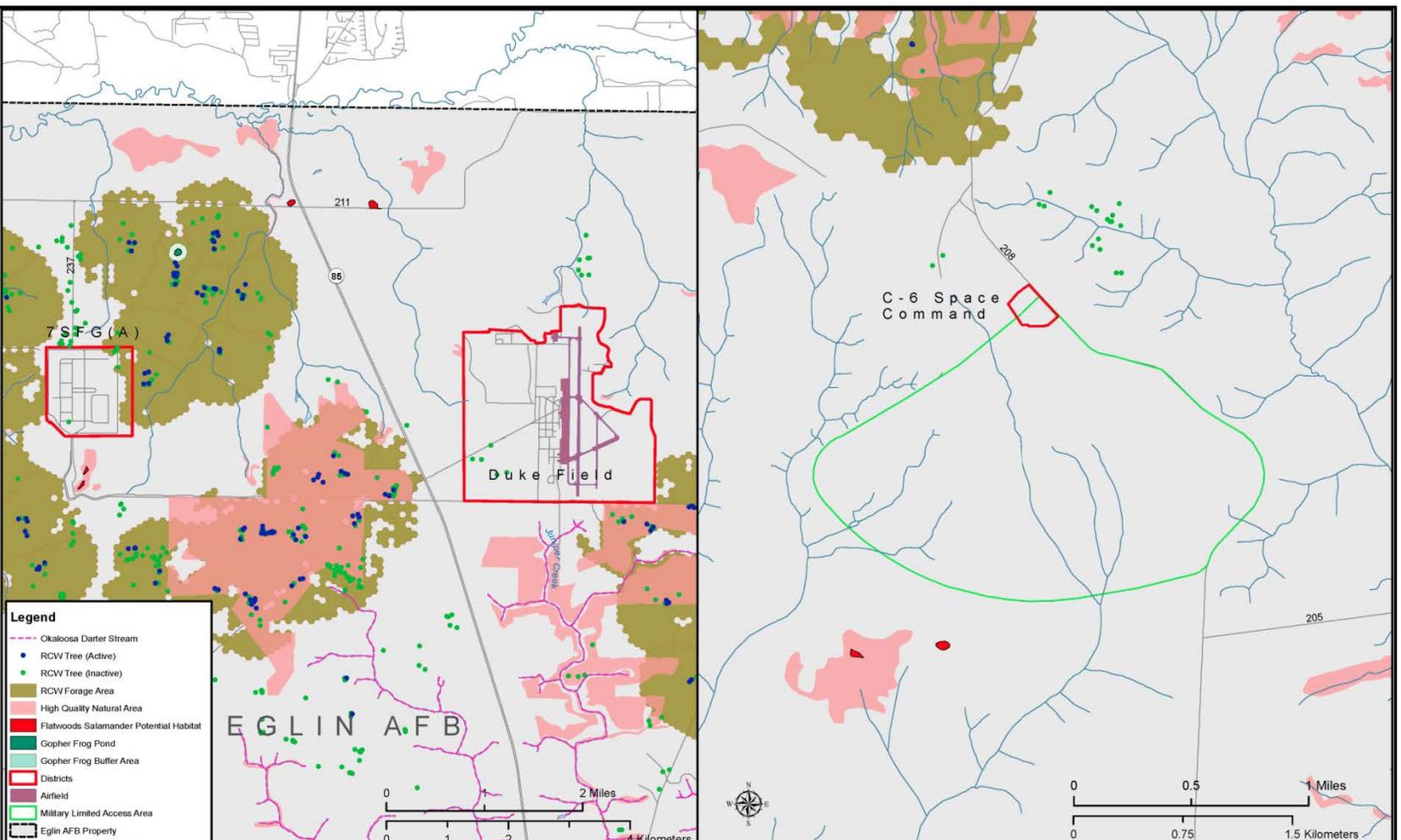


Figure 3-14. Biological Resources at Duke Field, 7 SFG(A) Cantonment, and Site C-6 20 SPCS

Eglin Main

Eglin Main Base is primarily characterized by urban/landscaped area and hardwood forest. There are small areas of high quality natural area in the southern portion near Choctawhatchee Bay and in the northern portion bordering Toms Creek. Toms Creek is also home to the federally listed Okaloosa darter. However, construction activities would not extend into these areas.

Numerous inactive RCW cavity trees exist in three primary areas: north of the flightline, on the far west near Camp Pinchot, and north of the housing area near the Eglin Boulevard/Nomad Way intersection. However, due to the lack of quality foraging habitat, it is unlikely that any of these areas will be recolonized. Several black bear sightings have been documented primarily in the northwest portion of the base known as the Triangle and near Memorial Lake. There is one area of potential habitat for flatwoods salamanders in the southwestern corner, west of Ben's Lake. One bald eagle nest is located in the central southern portion bordering Choctawhatchee Bay and east of Jack's Lake.

Duke Field

Duke Field consists primarily of hardwood forest, pine production, and urban/landscaped areas. Five inactive RCW cavities are located in the southwest portion of the cantonment. Large areas of high quality natural area with RCW foraging habitat and several active and inactive cavity trees are located to the west and southeast of the cantonment area, but outside of its boundaries. Juniper Creek, located south of Duke Field, is an Okaloosa darter stream.

7 SFG(A) Cantonment

The 7 SFG(A) Cantonment is almost entirely developed and maintained urban/landscaped area with a large (approximately 200-acre) woodland scrub area on the eastern side of the cantonment. Most of the woodland area is considered RCW foraging habitat; there are four inactive cavities in the northern portion of the cantonment and one in the southwest corner of the cantonment. The cantonment area is also bordered on the west side by a large RCW foraging habitat, and numerous inactive cavity trees are in a cluster to the north of the cantonment area near Range Road (RR) 237. A high quality natural area and potential flatwoods salamander habitat is south of the 7 SFG(A) Cantonment northeast of the RR 237 and RR 215 intersection.

Camp Rudder

Camp Rudder consists primarily of urban/landscaped area and open woodlands with one wetland/riparian area on the east side in the vicinity of Metts Creek. The entire southeast corner and the area around Metts Creek consist of high quality natural habitat. A large area of RCW foraging habitat lies to the east and southeast of Camp Rudder, beginning about 100 meters away. Another RCW foraging area is to the west, approximately 150 meters away. There are no other sensitive species concerns at Camp Rudder.

Site C-6 20 SPCS Area

The Site C-6 20 SPCS Area is almost entirely urban/landscaped maintained area with woodlands on the western border. There are no high quality natural areas or other biological resource concerns located within this cantonment area. There is one area of potential flatwoods salamander habitat to the south of the cantonment, but it is located over a mile away and not likely to be impacted.

3.3.3 Environmental Consequences

3.3.3.1 No Action Alternative

There would be no significant impacts to biological resources under the No Action Alternative. The cantonment areas would not be developed, the degree of human presence would not change, no habitat would be disturbed, and no trees would be removed. Wildlife use of the area would not change compared to current conditions.

3.3.3.2 Alternative 1

There would be no significant impacts to biological resources under Alternative 1. Construction would result in some loss of habitat, although human presence and building placement would likely deter wildlife from using areas near newly constructed facilities. Most of the proposed future developments would be likely to make use of existing infrastructure and locate new facilities near existing ones. As such, most development would take place in urban/landscaped areas, which are not considered good wildlife habitat. Animals that use the area near the cantonments are likely habituated to the noise and human presence in the existing developed areas. Loss of this habitat would not be significant because the site occurs within a fragmented vegetated portion of the existing developed housing area, and likely does not function as important wildlife habitat on the base.

Construction actions in any High Quality Natural Community, Outstanding Natural Area, or Significant Botanical Site would be reviewed by appropriate personnel from each area of expertise within Eglin's Natural Resources Office, and recommendations would be made on how to mitigate any potential impacts on biological resources in these areas.

Sedimentation and runoff associated with construction and tree clearing activities on Eglin Main and Duke Field could have the potential to affect the federally threatened Okaloosa darters in Toms Creek and Juniper Creek, respectively. There is no standard guidance for vegetative buffers along Okaloosa darter streams; however, maintenance of at least a 100-foot buffer, but preferably 200 feet or more, would substantially reduce the potential for excess sedimentation and runoff to affect the stream and would provide good aquatic habitat protection (USFWS, 2001). Usage of erosion control measures such as silt fencing near Toms Creek would also reduce impacts.

Specific building location(s) and orientation(s) would be designed to minimize the loss of trees, particularly longleaf pines. Likewise, siting would ensure avoidance of RCW active or inactive cavity trees at the site, as well as RCW foraging habitat. Gopher tortoises, which are candidate species under the ESA, could possibly occur at construction sites in some areas within each

cantonment area. Gopher tortoise burrows may also be used by other species, including the ESA-listed eastern indigo snake. Impacts could result from gopher tortoise burrow collapse or from direct physical impacts during construction. As Eglin Natural Resources Office personnel deem necessary, site surveys would be conducted at least 30 days before construction begins. Any tortoises found in areas potentially impacted by construction activities would be relocated, and burrows would be investigated to determine the presence of indigo snakes or other wildlife. Burrows would be collapsed after tortoise relocation to deter potential occupation by additional tortoises or other wildlife. Transportation and release of tortoises would follow guidelines established by the Florida Fish and Wildlife Conservation Commission (FWC) in *Gopher Tortoise Permitting Guidelines* (FWC, 2008).

Other species such as eastern indigo snake, Florida pine snake, or Florida black bear may be sighted during construction activities. However, if an indigo snake, pine snake, or black bear were sighted, impacts could be avoided if personnel ceased activities until the animal had moved away from the area. Eglin Natural Resources Office has completed a “no effect” letter with USFWS for threatened and endangered species. All projects would comply with avoidance and minimization measures included in Appendix C. Coordination with Eglin Natural Resources Office is required prior to project initiation to ensure compliance with the Migratory Bird Treaty Act.

3.3.3.3 Alternative 2

The impacts to wildlife under Alternative 2 would be slightly increased in impact as compared to Alternative 1. Areas of known sensitive species occurrence or habitat use would be avoided to the extent possible. Eglin Natural Resources Office personnel would be consulted prior to construction to assess whether gopher tortoise or other surveys are necessary. No adverse impacts to biological resources would occur.

3.4 HAZARDOUS MATERIALS AND WASTE

3.4.1 Definition

This section describes the affected environment associated with hazardous materials, hazardous wastes, ERP sites, and solid waste associated with construction and demolition within Eglin AFB cantonment areas.

The terms “hazardous materials” and “hazardous waste” refer to substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA). In general, hazardous materials include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health or the environment when released into the environment. Hazardous wastes that are regulated under RCRA are defined as any solid, liquid, contained gaseous, or semisolid waste, or any combination of wastes that either exhibit one or more of the hazardous characteristics of ignitability, corrosivity, toxicity, or reactivity, or are listed as a hazardous waste under 40 CFR Part 261. Executive Order 13148, *Greening the Government Through Leadership in Environmental Management* (26 April 2000), requires federal agencies to

minimize the generation of hazardous waste and to comply with the Emergency Planning and Community Right-to-Know Act (EPCRA), the initial catalyst for the creation of the Hazardous Materials Management Program (HMMP).

The ERP is a DoD program to identify, characterize, and remediate environmental contamination from past activities at DoD installations.

Air Force Policy Directive (AFPD) 32-70, *Environmental Quality*, and the AFI 32-7000 series incorporate the requirements of all federal regulations, other AFIs, and DoD directives for the management of hazardous materials, hazardous wastes, and special hazards (U.S. Air Force, 2010).

3.4.2 Affected Environment

The 96th Civil Engineer Group/Environmental Management Branch (96 CEG/CEIE), is responsible for the implementation of hazardous material and waste plans at Eglin AFB. In conformance with the policies established by AFPD 32-70, the 96 CEG/CEIE has developed procedures and plans to manage hazardous materials, hazardous wastes, and ERP sites on Eglin AFB.

Hazardous Materials

Throughout the Air Force, hazardous materials are managed in accordance with AFI 32-7086, *Hazardous Materials Management*. This instruction establishes procedures and standards that govern the management of hazardous materials. It applies to all Air Force personnel who authorize, procure, issue, use, or dispose of hazardous materials, and to those who manage, monitor, or track any of those activities (U.S. Air Force, 2004). The 96 CEG/CEIE manages hazardous materials in accordance with AFI 32-7086.

Hazardous materials are used throughout the installation for various functions, including aircraft refueling, maintenance, and washing; vehicle maintenance and washing; POL distribution and management; facilities maintenance and repair; maintenance of ground support equipment; and aircraft support operations. Hazardous materials used in these functions include fuels and lubricating oils, solvents, paints and thinners, antifreeze, deicing compounds, and acids. At Eglin AFB, hazardous materials are managed through a centralized Base Hazardous Material (HAZMAT) Pharmacy using a system that tracks the inventory and acquisition of hazardous materials along with hazardous waste disposal and health and safety information.

Hazardous Wastes

Hazardous wastes are managed through the *Hazardous Waste Management Plan* (HWMP). The plan is prepared in accordance with AFI 32-7042, *Waste Management*. The HWMP provides guidance to Eglin AFB personnel (including tenants) on the handling, storage, and disposal of hazardous materials, and this plan would implement the “cradle-to-grave” management control of hazardous waste as mandated by USEPA (U.S. Air Force, 2009a).

Eglin AFB is regulated as a large quantity generator. Satellite accumulation points are utilized throughout the installation for the accumulation of hazardous wastes.

Asbestos-Containing Materials Management

Asbestos has been identified in older buildings at Eglin AFB. Asbestos-containing materials include insulation, floor tiles, mastic, pipe-wrap, roofing, and other materials, such as transite siding. Eglin AFB maintains a computerized database system for the management of ACM. The system supports activities that include asbestos physical survey data (e.g., building number, survey date, inspector, location/functional space, material type/description, assessment comments); asbestos laboratory analysis data; and asbestos abatement data (e.g., abatement start/completion dates, contractor name, contractor rating, abatement cost, disposal fee, air monitoring costs, total cost). The database system provides Eglin AFB environmental staff with on-demand data for managing ACM.

Asbestos-containing materials are managed in accordance with the base's *Asbestos Management Plan* (U.S. Air Force, 2010a) and *Asbestos Operations Plan* (U.S. Air Force, 2006). These plans specify procedures for removal, encapsulation, enclosure, and repair activities associated with ACM abatement projects and are designed to protect installation personnel and residents from exposure to airborne asbestos fibers. The base manages asbestos in-place where possible, removing it only when there is a threat to human health or the environment or when it is in the way of construction or demolition. Removal and disposal of asbestos is carried out in strict compliance with all applicable federal, state, and local laws, rules, regulations, and standards.

Lead-Based Paint Management

An LBP survey conducted at Eglin AFB identified LBP in older buildings. As with ACM, Eglin has implemented a computerized database system for the management of LBP. Any projects that require alteration or demolition of identified or older structures are reviewed by the Civil Engineering and Bio-environmental Office and may trigger the requirement for LBP surveys. Project designs stipulate appropriate abatement and disposal requirements for LBP. Projects that are likely to crush lead-containing coatings to a form that can be inhaled or ingested are managed in accordance with federal, state, and local transportation, treatment, storage, and disposal requirements.

The Eglin AFB *Lead Based Paint Management Plan* provides specific policy and guidance to identify and address LBP hazards and to protect the public from exposure to these hazards (U.S. Air Force, 2010b). The plan also provides guidance on proper management/disposal of material containing LBP.

Environmental Restoration Sites

The ERP, formerly known as the Installation Restoration Program, provides a process to evaluate past disposal sites, control the migration of contaminants, assess potential hazards to human health and the environment, and conduct environmental restoration activities. The ERP requires each DoD installation to identify, investigate, and remediate hazardous waste release and disposal sites. There are currently 12 active ERP sites located at Eglin Main Base and three located at Duke Field. There are no active ERP sites located at the 7 SFG(A) Cantonment, Camp Rudder, or Site C-6 20 SPCS Area. Table 3-5 lists and describes the active ERP sites at Eglin Main and Duke Field and each site's current status. ERP sites are shown in Figure 3-15 and Figure 3-16.

Table 3-5. Active ERP Sites Located Within Cantonment Areas

| Site | Description | Status |
|----------------------------------|---|---|
| SS-36, POL Tank Farm | Approximately 4,000 gallons of JP-4 petroleum product were discovered to have been discharged from an underground pipe in 1983. Initial remedial action consisted of trenching and free product removal of 1,900 gallons. Petroleum constituents (BTEX, PAHs, and TRPH) were found in soils and groundwater. Dissolved phase and free product have been detected in groundwater. Between 1986 and 1987, an estimated 5,000 pounds of JP-4 hydrocarbon mass was removed and 150 gallons of free product was recovered. Three air sparge systems are currently operating at the site. A bioventing system is currently inactive. | Groundwater samples are collected semiannually. MNA as a means for long-term site management in dealing with residual vadose under the tanks and saturated zone contamination is expected. NFA with controls is the expected exit strategy. |
| OT-35, Seventh Street BX Station | Approximately 3,600 gallons of petroleum leaked from USTs in 1984. In 1994, soil and groundwater near a UST containing waste oil exhibited petroleum contamination. A pump and treat system (to remove free product), bioventing system, and excavation of contaminated soil, conducted between 1992 and 1997, proved inadequate to remediate the high soil and groundwater contaminant concentrations. Two AAS systems and an SVE system were installed in 2004. These systems have reduced contaminant amounts to cleanup levels, and the groundwater plume has shrunk to the source area. | O&M of the remedial systems and semiannual groundwater monitoring are ongoing. |
| SS-279, JP-8 Spill Site | A JP-8 fuel spill occurred at the site in 2005 during a fuel transfer. Improperly positioned valves caused a 1,000-gallon product recovery tank to overflow, resulting in release of an estimated 1,200 to 1,500 gallons of fuel. The surface soil was saturated with fuels around the UST. Due to the presence of underground utilities and the possibility of undermining a mission-critical fuel facility, minimal soil removal was completed. Soil and groundwater samples taken in 2005 indicated the soil was impacted with BTEX, PAHs, and petroleum hydrocarbons. Two monitoring wells contained free product and were not sampled during the Preliminary Assessment. Groundwater samples were collected from two of the four on-site monitoring wells, and no constituents were detected above GCTLs. Passive bailers removed 4.1 gallons of free product in 2005. A RAP, prepared in 2008, recommended the installation of AAS and SVE systems. | Operation and optimization of the remedial system is ongoing to reduce source area concentrations to a point where active remediation is no longer required. This site is expected to reach NFA unrestricted levels. Groundwater samples are collected quarterly. |

Table 3-5. Active ERP Sites Located Within Cantonment Areas, Cont'd

| Site | Description | Status |
|--|---|--|
| SS-275, ACC Tank Farm | <p>This site is associated with Sites ST-70 and SS-72. In 1995, elevated OVA readings were observed, believed to be related to an old AST release. A subsequent search located records of a JP-4 spill. Apparently, the area southwest of Tank 1302 was used to dispose of water in the tank bottom and JP-4 prior to installation of the concrete containment berms around the two ASTs. According to Eglin AFB records, base personnel responded to reports of a JP-4 surface spill in this area in 1985 and recovered approximately 300 gallons of JP-4. Also, subsequent to a 1995 CAR, it was discovered that JP-8 was running out of a drain of a containment unit and that a drain sump was allowing fuel to be released directly to the ground. Base personnel excavated a portion of the containment unit down to 15 to 16 feet, but excessively contaminated soil was still present. The excavation was restored to grade using clean backfill material. A SAR was prepared in 1998 and resulted in discovery of BTEX in soil and groundwater samples. A subsequent RAP identified AAS, SVE, and NA for remediation. Free product was discovered in existing and new monitoring wells, and an investigation concluded that approximately 700,000 pounds of mobile, residual, and dissolved petroleum hydrocarbon contamination exists over an area of approximately 20 acres.</p> | <p>The AAS/SVE systems have been operating since 2006. The system will continue to operate with off-gas treatment to keep emissions below 13.7 pounds per day as required. Selective monitoring wells are sampled quarterly to monitor the progress on dissolved phase and free product abatement.</p> |
| SS-280, 33rd Valve Pit to Hot Pit Spill Site | <p>Site SS-280 is located along the pipeline that connects the 33rd Fighter Wing fuel farm to the flightline hot pits. An estimated 1,000 to 30,000 gallons of JP-8 fuel leaked from the pipeline in 2008 or prior. In August 2008, 3,662 tons of contaminated soil was excavated. In 2005, an additional fuel spill occurred, releasing an estimated 1,200 to 1,500 gallons. Surface soil was saturated with fuel around the UST. Minimal soil removal was completed. Soil and groundwater samples collected as part of a 2005 Preliminary Assessment indicated that soils were impacted with BTEX, PAHs, and petroleum hydrocarbons. Two of four monitoring wells contained free product, and passive bailers were installed for removal. A RAP recommended installation of AAS and SVE systems, which were installed in 2008.</p> | <p>The remedial systems are currently in place, and groundwater samples are collected quarterly.</p> |
| SS-281, 33rd Valve Pit to Hot Pit Spill Site | <p>Site SS-281 is concurrent with SS-280 but represents the deep aspect of the spill.</p> | |

Table 3-5. Active ERP Sites Located Within Cantonment Areas, Cont'd

| Site | Description | Status |
|--|---|---|
| <p>FT-28, Eglin Main Base Old Fire Training Area</p> | <p>The site was used as a fire training area from the 1950s until the mid-1980s. Flammable liquids were transferred from an on-site AST or a tank truck into the burn pit through a buried transfer line, and firefighters practiced extinguishing flames on mock aircraft. RFIs in 1994 and 1995 indicated the presence of contaminants of potential concern, including VOCs and petroleum hydrocarbons, in soil and groundwater. Studies in 1998 concluded that NA was reducing BTEX concentrations and that chlorinated VOCs in the deep aquifer were being dechlorinated by microbial action. MNA and long-term monitoring were recommended for groundwater remedy. Also in 1998, a foot of clean soil was spread across the site after all debris was removed, and the site was covered with sod. A bioventing system initiated in 1994 was converted to an SVE system in 2001–2002. An HHRA indicated that risks under current land use are within the USEPA target risk range and only slightly exceed FDEP acceptable risk levels for base workers, maintenance workers, and construction workers under the most conservative RME scenario. Both FDEP and USEPA risk standards are exceeded at the site for future hypothetical residents under both the average and RME scenarios.</p> | <p>O&M of the remedial system and semiannual groundwater monitoring are currently being conducted. Additional monitoring wells were installed in January 2002 and added to the semiannual monitoring plan to delineate the shallow and deep dissolved contamination plumes.</p> |
| <p>SS-282, West Gate Gas Station</p> | <p>The site is located at the AAFES gas station, near the west gate of Eglin Main Base. In spring 2010, petroleum-impacted soils were identified during removal of five USTs that previously contained gasoline fuels. Eglin identified the area as a new IRP site ST-282 at that time. The impacted soils were identified within the excavation area and a test pit advanced on the northeast side of the excavation. Approximately 421 tons of petroleum-impacted soils were excavated and disposed of off-site. So far, in the investigation, six DPT borings have been advanced, collecting continuous soil samples.</p> | <p>The next phase of work to be completed includes installing up to four monitoring wells using conventional hollow stem auger drill rig techniques. A groundwater sample will be collected from each of those monitoring wells. Those samples will be analyzed for VOCs, SVOCs, pesticides/PCBs, and inorganics.</p> |
| <p>SS-283, McKinley Climatic Laboratory (Building 455)</p> | <p>SS-283 is located near ST-65. It is south of the McKinley Climatic Laboratory and north of Eglin Boulevard. It is related to ST-65, the former tank field which consisted of two USTs. The AAS and SVE systems were shut down in 2003. A sampling conducted in 2010 showed JP-4, JP-8, other petroleum byproducts, and PAHs.</p> | <p>Assessment of the site is ongoing to identify the source and determine the extent of environmental contamination at the site. DPT soil borings and groundwater samples will be collected and analyzed.</p> |
| <p>ST-69, Waste Oil Tank (Building 3073)</p> | <p>This site, located at the southwest corner of the motor pool compound at Duke Field, is the former site of a waste oil tank that has been inactive since 1989. The soil was contaminated with BTEX and PCE and its byproducts in the groundwater. The tank, piping, and approximately 20 cubic yards of soil were removed in 1994. Later in 1994, another 600 cubic yards was removed. AAS and SVE were implemented and have been effective in reducing concentrations.</p> | <p>Groundwater monitoring continues semiannually, and site inspections occur quarterly.</p> |

Table 3-5. Active ERP Sites Located Within Cantonment Areas, Cont'd

| Site | Description | Status |
|--|---|---|
| SS-274, Duke Field Fire Training Area | Located east of the runway and adjacent to the wastewater treatment plant at Duke Field, this site originally consisted of two circular burn pits used in the 1950s for fire training and disposal of waste fuels, oils, and solvents. A 1995 survey revealed JP-8 and benzene in groundwater and VOCs in soils. After 2003 analysis, MNA was ruled out as a remedial option. | Active remedial measures at Site SS-274 are currently under way with the operation, maintenance, and monitoring of an AAS/ SVE. |
| SS-55, Duke Field Tank Farm Buildings 3206 & 3208) | This site is a 1.75-acre fenced area serving as a petroleum storage facility. There are two ASTs and two pump sheds located at the site. A UST was removed in 1992, and piping was discovered to have leaked petroleum product. Approximately 1,850 gallons of JP-4 leaked in 1991. In 1994, testing revealed a leak in piping. In 1999 and 2000, small quantities of contaminated soil were excavated. | The remedial system remains in operation to reduce target source zones at Site ST-55 and is funded by compliance funds. |

Source: U.S. Air Force, 2009b

AAFES = Army and Air Force Exchange Service; AAS = aquifer air sparge; ACC = Air Combat Command; AFB = Air Force Base; AST = aboveground storage tank; BTEX = benzene, toluene, ethylbenzene, and xylenes; BX = Base Exchange; CAR = contamination assessment report; DPT = direct push technology; FDEP = Florida Department of Environmental Protection; FT = Fire Training; GCTL = groundwater contaminant threshold level; HHRA = human health risk assessment; IRP = Installation Restoration Program; JP = jet propellant; MNA = monitored natural attenuation; NA = natural attenuation; NFA = no further action; O&M = operations and maintenance; OVA = organic vapor analyzer; PAH = polycyclic aromatic hydrocarbon; PCB = polychlorinated biphenyl; PCE = perchloroethylene; RAP = remedial action plan; RFI = RCRA Facility Investigation; RME = reasonable maximum exposure; SAR = Site Assessment Report; SS = Spill Site; ST = Storage Tank; SVE = soil vapor extraction; SVOC = semivolatile organic compound; TRPH = total recoverable petroleum hydrocarbons; USEPA = U.S. Environmental Protection Agency; UST = underground storage tank; VOC = volatile organic compound

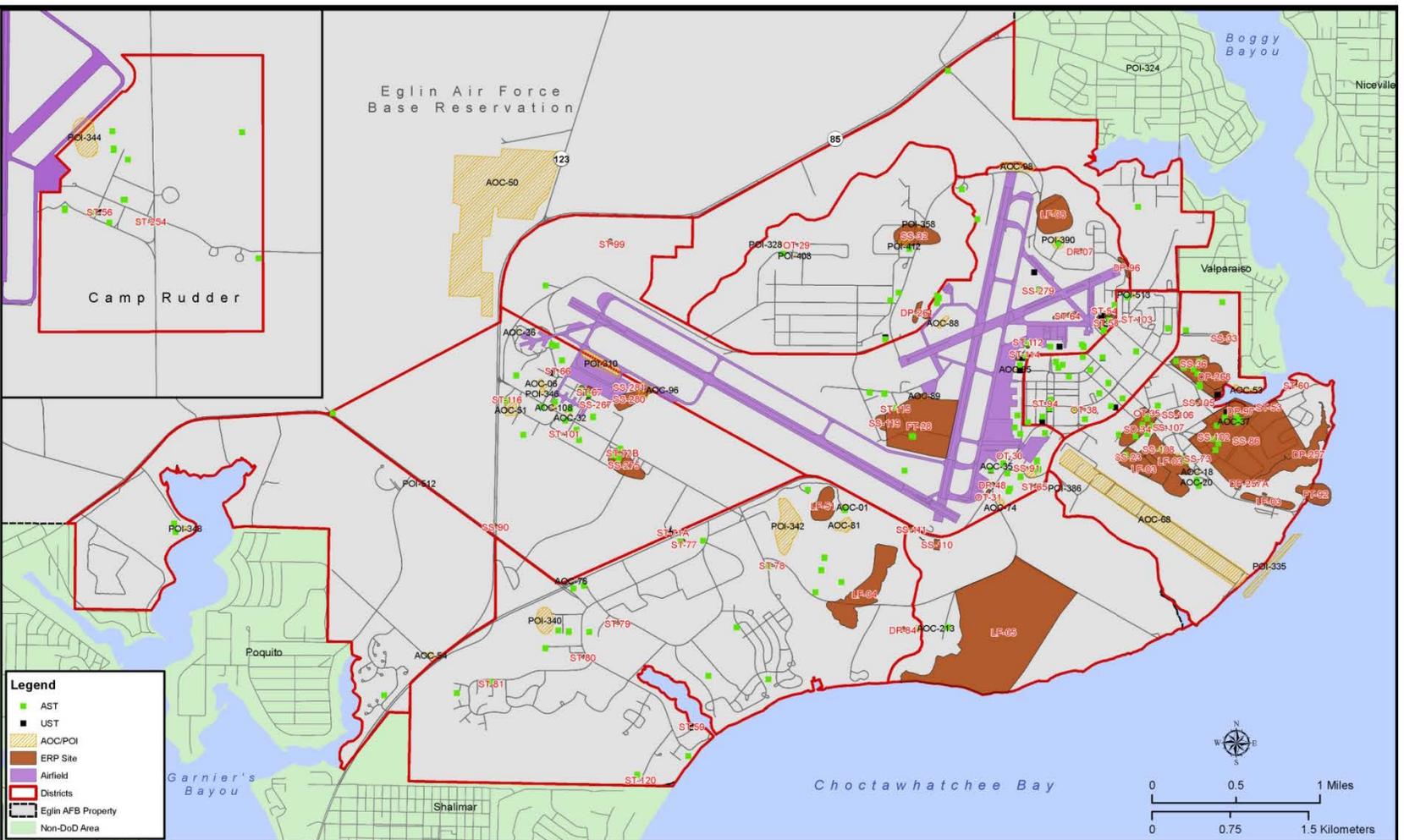


Figure 3-15. ERP Sites at Eglin Main and Camp Rudder

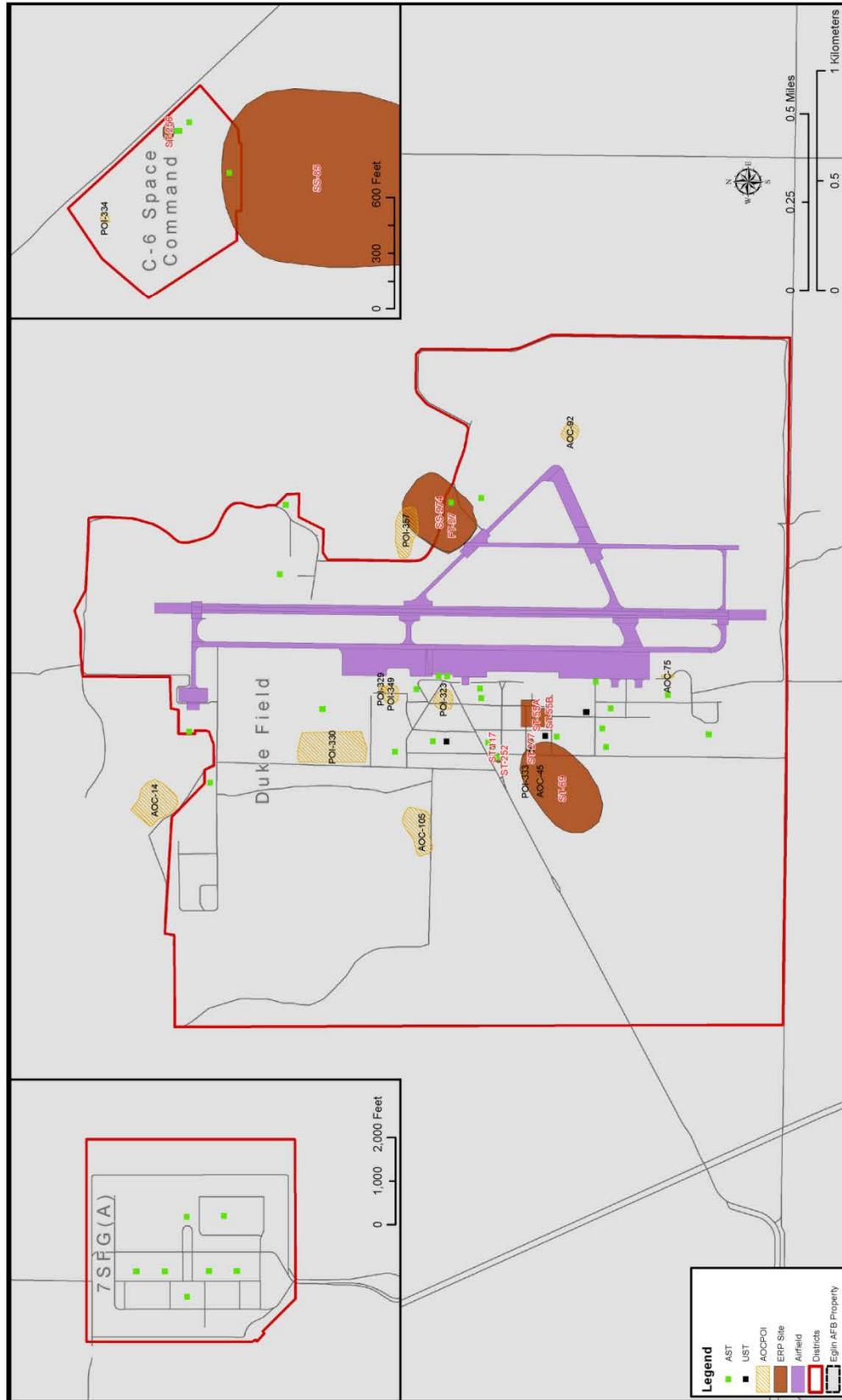


Figure 3-16. ERP Sites at Duke Field, the 7 SFG(A) Cantonment, and Site C-6 20 SPCS Area

3.4.3 Environmental Consequences

3.4.3.1 No Action Alternative

Under the No Action Alternative, the cantonment areas would not be developed further, and would therefore have no impact on hazardous materials and hazardous waste management, solid waste, or ERP sites.

3.4.3.2 Alternative 1

Hazardous Materials and Wastes

Under Alternative 1, construction and demolition activities may require the use of hazardous materials, and hazardous waste may be generated. However, the Proposed Action would not increase hazardous material or hazardous waste significantly. As the proper handling, use, and disposal of hazardous materials and waste, including materials such as sealant and surface treatment substances used for parking apron concrete restoration, are routine at Eglin AFB, personnel would adhere to the present HWMP tracking and reporting requirements. As a result, the Air Force does not anticipate any harm to the environment from hazardous materials and hazardous waste generated from the Proposed Action under Alternative 1.

ACM/LBP

Construction activities would not be expected to generate hazardous wastes; however, renovation/demolition of some buildings could result in the production of LBP or asbestos wastes. The management of these wastes would be performed according to prescribed procedures already in place.

Proper disposal of lead-containing wastes would also be conducted in accordance with state and federal regulations, including the Toxic Substances Control Act and the Occupational Safety and Health Act. These wastes would be accompanied by a waste manifest and disposed of at a state-approved facility.

Disposal of asbestos wastes would be conducted under the direction of the National Emissions Standards for Hazardous Air Pollutants (40 CFR 61.40-157). Contracted personnel would have to be trained and certified to remove any asbestos materials. The contractor would submit an asbestos work and disposal plan for any demolition, as well as transport and disposal documentation records, including signed manifests.

There is also a pollution prevention plan, designed to prevent or reduce pollution, reduce safety and health risks, and recycle wastes when possible. Wastes that cannot be recycled would be disposed of in a manner approved by the USEPA, at licensed facilities. The implementation of these management requirements would mitigate any adverse impacts resulting from ACM or LBP. As ACM and LBP would not be employed for new construction, there would be beneficial impacts associated with the removal of ACM and LBP.

Solid Waste

The USEPA provides guidelines for estimating solid waste resulting from construction. Based on the analysis of empirical data, it is estimated that during construction of residential facilities, an average of 4.39 pounds (lbs) of debris is generated for each square foot (ft²) constructed and 158 lbs/ft² for demolition activities (USEPA, 2009). This estimate accounts for the waste generated from the construction of both buildings and impervious surfaces, and does not differentiate. This formula has been applied to each of the alternatives to estimate the amount of solid waste each would be expected to produce annually (Table 3-6).

Table 3-6. Alternative 1 Annual Solid Waste

| Cantonment Area | Solid Waste Generated (Tons) | | |
|------------------|------------------------------|--------------|--------------|
| | Construction | Demolition | Total |
| Eglin Main | 2,867 | 1,835 | 4,702 |
| Duke Field | 1,710 | 323 | 2,033 |
| 7 SFG(A) | 195 | 145 | 340 |
| Camp Rudder | 727 | 103 | 830 |
| C-6 20 SPCS Area | 23 | 6 | 29 |
| Total | 5,521 | 2,412 | 7,934 |

Solid waste would be disposed of as part of the construction agreement with the building contractor. Following established plans and best management practices (BMPs), construction debris would be recycled to the greatest extent feasible. Inert debris (concrete, asphalt, dirt, brick, and other rubble) would be incorporated into reuse and recycling programs when possible. In the 1998 report by the USEPA, *Characterization of Building-Related Construction and Demolition Debris (C&D) in the United States*, the state of California estimated that for nonresidential C&D projects, 57 percent of inert waste was recycled (USEPA, 1998). While this figure may not be representative of the recyclable potential from Eglin AFB actions, it is reasonable to assume that a significant portion of the debris would be recycled and reused. The C&D debris produced from the Proposed Action is well within the capacity for solid waste disposal and recycling, and the Air Force does not anticipate any adverse impacts from implementing Alternative 1.

ERP Sites

As discussed in Section 3.4.2, Eglin AFB maintains a proactive ERP to identify, classify, and remediate environmental contamination. As shown in Table 3-5, there are numerous ERP sites located within the cantonment areas. No impacts are anticipated from the presence of these ERP sites. Construction activities near existing ERP sites would be coordinated with Eglin's Environmental Restoration Branch to ensure no adverse impacts to these sites. Regardless, should any unusual odor, soil, or groundwater coloring be encountered during development activities in any areas, the Environmental Restoration Branch would be contacted immediately.

3.4.3.3 Alternative 2

Under Alternative 2, impacts would be similar to those under Alternative 1. Policies and procedures currently in place at Eglin AFB would be sufficient to address any issues related to hazardous materials and wastes associated with the implementation of Alternative 2. Likewise, ACM and LBP policies and procedures would minimize any risks associated with demolition of older facilities and disposal of waste.

Due to the increased scope, more solid waste is likely to be generated under Alternative 2 (Table 3-7) than under Alternative 1. However, the construction and demolition debris produced from the Proposed Action is well within the capacity for solid waste disposal and recycling, and the Air Force does not anticipate any adverse impacts from implementing Alternative 2.

Table 3-7. Alternative 2 Annual Solid Waste

| Cantonment Area | Solid Waste Generated (Tons) | | |
|------------------|------------------------------|--------------|--------------|
| | Construction | Demolition | Total |
| Eglin Main | 3,589 | 2,293 | 5,883 |
| Duke Field | 2,156 | 404 | 2,560 |
| 7 SFG(A) | 253 | 181 | 434 |
| Camp Rudder | 727 | 103 | 830 |
| C-6 20 SPCS Area | 24 | 8 | 32 |
| Total | 6,749 | 2,990 | 9,738 |

Similarly, due to the increased footprint under Alternative 2, the potential for interaction with ERP sites would be slightly greater. However, through Eglin's Environmental Restoration Branch, no adverse impacts on these sites are anticipated. Regardless, should any unusual odor, soil, or groundwater coloring be encountered during development activities in any areas, the Environmental Restoration Branch would be contacted immediately.

3.5 NOISE

3.5.1 Definition

Noise is defined as any unwanted sound. Defining characteristics of noise include sound level (amplitude), frequency (pitch), and duration. Each of these characteristics plays a role in determining a noise's intrusiveness and level of impact on a noise receptor. The term "noise receptor" is used in this document to mean any person, animal, or object that hears or is affected by noise.

Sound levels are recorded on a logarithmic decibel scale, reflecting the relative way in which the ear perceives differences in sound energy levels. A sound level that is 10 decibels (dB) higher than another would normally be perceived as twice as loud while a sound level that is 20 dB higher than another would be perceived as four times as loud. Under laboratory conditions, the healthy human ear can detect a change in sound level as small as 1 dB. Under most nonlaboratory conditions, the typical human ear can detect changes of about 3 dB.

Sound measurement may be further refined through the use of frequency “weighting.” The normal human ear can detect sounds that range in frequency from about 20 hertz (Hz) to 20,000 Hz (Federal Interagency Committee on Noise [FICON], 1992). However, all sounds throughout this range are not heard equally well. In “A-weighted” measurements, the frequencies in the 1,000–4,000-Hz range are emphasized because these are the frequencies heard best by the human ear. Sound level measurements weighted in this way are termed “A-weighted decibels” (dBA). Unless otherwise noted, all sound levels referenced in this EA can be assumed to be A-weighted.

Typically, sound levels at any given location change constantly. For example, the sound level changes continuously when an aircraft flies by, starting at the ambient (background) level, increasing to a maximum when the aircraft passes closest to the receptor, and then decreasing to ambient levels when the aircraft flies into the distance. The term “maximum sound level,” or L_{max} , represents the sound level at the instant during an aircraft overflight when sound is at its maximum.

Annoyance is the most common effect of aircraft noise on humans. Aircraft noise often interferes with activities such as conversation, watching television, using a telephone, listening to the radio, and sleeping. This interference often contributes to individuals becoming annoyed. Whether or not an individual becomes annoyed by a particular noise is highly dependent on emotional and situational variables of the listener, as well as the physical properties of the noise (Federal Aviation Administration [FAA], 1985). However, when assessed over long periods of time and with large groups of people, a strong correlation exists between the percentage of people highly annoyed by noise and the time-averaged noise exposure level in an area (Finegold et al., 1994). This finding is based on surveys of groups of people exposed to various intensities of transportation noise. A generalized categorization of noise-induced annoyance can be found in Table 3-8.

Table 3-8. Relationship Between Noise Level and Percent of Population Highly Annoyed

| Criteria | Noise Level | | |
|--|-------------|------------|-----------|
| | < 65 dB | 65–75 dB | > 75 dB |
| A-Weighted Average Noise Levels (Continuous Noise) | < 62 dBC | 62–70 dBC | > 70 dBC |
| C-Weighted Average Noise Levels (Impulsive Noise) | < 87 dBP | 87–104 dBP | > 104 dBP |
| Unweighted Peak Noise Levels (Small Arms Noise) | < 15% | 15–39% | > 39% |
| Percent of Population Highly Annoyed | | | |

Sources: United States Army Center for Health Promotion and Preventive Medicine (USACHPPM), 2005; U.S. Army, 2007

< = less than; > = greater than; dB = decibels; dBC = C-weighted decibels; dBP = P-weighted decibels

Note: The primary noise metric used by the U.S. Army to describe small-arms noise is $PK_{1.5(met)}$.

Based on numerous sociological surveys and recommendations of federal interagency councils, the most common benchmark referred to is the day/night average sound level (DNL) of 65 dBA (Table 3-8). The DNL is a measure of the cumulative noise exposure in a community, with a 10 dB addition to nighttime (10:00 PM to 7:00 AM) noise levels. This annual average threshold is often used to determine residential land use compatibility around airports, highways, or other transportation corridors.

The USEPA recommends that, to protect public health with an adequate margin of safety, exterior noise levels should not exceed 55 dB DNL, interior noise levels should not exceed 45 dB DNL, and sleeping areas should be less than 45 dB DNL in noise-sensitive locations

(USEPA, 1974). The Federal Interagency Committee on Urban Noise (FICUN) took these recommendations into consideration when developing its recommendations on compatibility of land uses with noise impacts (FICUN, 1980). These recommendations have been adopted, with minor modifications, by the DoD (DoD Instruction 4165.57).

The Air Force has requirements for certain types of facilities built in areas with noise levels above 65 dB DNL. For instance, soundproofing measures must be incorporated in the design and construction of the housing to achieve an outdoor-indoor noise level reduction of at least 25 dB in the 65 to 70 dB DNL range and 30 dB in the 70 to 75 dB DNL range. Standard construction provides a noise level reduction of 20 dB; therefore, construction requirements of 5 to 10 dB over standard construction with mechanical ventilation and closed windows year-round would reduce noise effects to residents in noise exposure areas (U.S. Air Force, 2004). Studies indicate a tendency for humans to habituate to regularly occurring nighttime noise over time, eventually reducing susceptibility to noise-induced sleep disturbance (Fidell et al., 1995; Pearsons et al., 1995; Kryter, 1984).

Noise is often viewed as being one of a number of general biological stressors. Some studies have indicated that excessive exposure to intense noise might contribute to the development and aggravation of stress-related conditions such as high blood pressure, coronary disease, ulcers, colitis, and migraine headaches. Other studies have found no correlation between noise and various health conditions. Nonauditory health effects of noise are not well established at this time, and are likely only experienced at extremely high noise levels (USEPA, 1981).

A considerable amount of data on noise-related hearing loss have been collected and analyzed. It is well established that continuous exposure to high noise levels (such as 8 hours of continuous exposure of 85 dB) damages human hearing (USEPA, 1974).

3.5.2 Affected Environment

Eglin AFB is an active base with noise from both military and residential activities. Common sounds at Eglin AFB are aircraft operations, construction activities, traffic sounds, munitions use (bombs and small arms) at nearby ranges, as well as residential activities such as lawn mowing. With the implementation of the proposed F-35 beddown, new noise contours from the F-35 aircraft may affect residential areas at Eglin AFB. Certain types of facilities that would be located in areas over 65 dBA would require noise abatement in the design and construction.

Sensitive receptors may be affected by construction noise at nearby houses. With implementation of the 2005 BRAC decision, new noise contours from the F-35 aircraft may affect the proposed facilities at Eglin Main and Duke Field. Facilities at Camp Rudder, the 7 SFG(A) Cantonment, and Site C-6 would not be affected by aircraft noise under any of the F-35 beddown alternatives. The Eglin AFB bioengineering staff is evaluating actual noise impacts to on-base areas and is implementing policies and procedures in accordance with AFI 91-301, *Air Force Occupational and Environmental Safety, Fire Protection and Health (AFOSH) Program*, in particular AFOSH Standard 48-20, *Occupational Noise and Hearing Conservation Program*.

Siting and construction of facilities on Eglin Main and Duke Field will be required to comply with these policies and procedures. For certain types of facilities located within the noise contours above 65 dBA (A-weighted decibels), additional NEPA analysis may be required. This will be determined by 96 CEG/CEIE through the environmental impact analysis process through submission and review of Air Force Form 813s.

3.5.3 Environmental Consequences

Although the noise environments at Eglin AFB are dominated by aircraft noise, aircraft overflights are intermittent in nature. Further, some facilities such as many aircraft and flightline support facilities are considered compatible with higher noise levels than an office building or housing, for instance. Facility siting will need to take into account the changing aircraft noise environment early on in the process and plan and implement noise abatement measures, if necessary.

Since C&D activities would be the primary noise-generating activities associated with the Proposed Action, construction noise is evaluated in this EA. Construction noise was evaluated using Roadway Construction Noise Model (RCNM) version 1.1, the Federal Highway Administration's (FHWA) standard model for the prediction of construction noise (U.S. Department of Transportation [USDOT], 2006). RCNM has the capability to model types of construction equipment that would be expected to be the dominant construction-related noise sources associated with this action. All construction noise analyses were assumed to make use of a standard set of construction equipment. Construction noise is expected to be limited to normal working hours (7:00 AM to 5:00 PM). Construction noise impacts are quantified using the 8-hour noise level equivalent ($L_{eq[8]}$) noise metric as calculated on an average busy working day during construction.

Construction noise was evaluated for one construction site and may be applied to each of the sites individually for potential negative effects to sensitive receptors in the vicinity of the construction site. Noise levels were evaluated for receptors at 100-foot increments from the construction equipment. Noise abatement measures were not considered in this analysis, as it is unknown if any shielding between the equipment and possible receptors would be utilized; this provides for a more conservative analysis. The same types of equipment are assumed to be used on each construction site. Noise levels above 65 dBA would be considered significant impacts. Summary of noise levels are shown in Table 3-9. Noise levels were calculated as an equivalent noise level (average acoustic energy) over an 8-hour period ($L_{eq[8]}$). The maximum sound level (L_{max}) shows the sound level of the loudest piece of equipment, which is generally the driver of the $L_{eq(8)}$ sound level.

Table 3-9. Construction Noise

| Receptor Distance (feet) | Maximum Sound Level (dBA) L_{max} | Equivalent Sound Level (dBA) $L_{eq(8)}$ |
|--------------------------|-------------------------------------|--|
| 100 | 79.0 | 81.3 |
| 200 | 73.0 | 75.3 |
| 300 | 69.4 | 71.8 |
| 400 | 66.9 | 69.3 |
| 500 | 65.0 | 67.3 |
| 600 | 63.4 | 65.7 |
| 700 | 62.1 | 64.4 |
| 800 | 60.9 | 63.2 |
| 900 | 59.9 | 62.2 |
| 1,000 | 59 | 61.3 |

dBA = A-weighted decibels; $L_{eq(8)}$ = noise level (average acoustic energy) over an 8-hour period; L_{max} = maximum sound level

The construction equipment with the maximum sound level (L_{max}) is the grader. Receptors located at distances greater than to 700 feet would experience an 8-hour averaged noise level less than 65 dBA.

3.5.3.1 No Action Alternative

No new construction would take place under the No Action Alternative. Thus, there would be no change to the current noise levels. The site would continue to have typical noise levels of an active air force base: vehicle traffic, aircraft overflight, use of munitions for testing and training purposes, and natural sounds of wind, birds, and insects. No adverse impacts would occur with the implementation of the No Action Alternative.

3.5.3.2 Alternative 1

Under Alternative 1, the Proposed Action could involve construction and demolition of facilities and infrastructure in locations that are currently developed and may include offices, housing, or commercial and other support facilities, as well as in undeveloped areas. Construction activities would cause increased noise levels in the area.

Noise generated by construction vehicles could potentially annoy people in the immediate vicinity of construction sites. However, construction noise would be temporary, lasting only the duration of the individual construction project, and would be expected to be limited to normal working hours (7:00 AM to 5:00 PM). C&D projects could generate minor vibration in nearby structures while impact tools such as jackhammers are in use.

Likewise, projects would be expected to be geographically separated in many cases. That is, numerous construction projects would not take place in the same location at the same time. Projects could be geographically and temporally spaced out such that the impacts would be further minimized. Noise impacts associated with C&D noise and vibration would be limited to annoyance while projects are under way. There would be no adverse impacts due to construction noise.

3.5.3.3 Alternative 2

The impacts under Alternative 2 would be similar to those under Alternative 1, though due to the increased scope of the proposed projects under Alternative 2, the size and duration of projects may be increased slightly. However, impacts associated with C&D noise and vibration would be limited to annoyance while projects are under way.

3.6 SAFETY

3.6.1 Definition

Safety is defined as any issue with a potential to increase health risks to military or DoD civilian personnel, developer personnel, or the general public. This section addresses the potential safety concerns associated with the Proposed Action, and includes fire and security forces response, as well as anti-terrorism/force protection requirements and considerations.

A variety of Air Force regulations address or govern safety, including AFI 91-301, *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Standards*. Under Title 29 CFR 1960 series, Occupational Safety and Health Administration (OSHA) standards do not apply to military-unique workplaces, operations, equipment, and systems. However, according to DoD instruction, they will be followed insofar as is possible, practicable, and consistent with military requirements. AFOSH standards apply unless specifically exempted by variance or determined to be an acceptable deviation. Safety also considers the potential for encountering UXO during construction/renovation activities, as records indicate ordnance has been expended or stored in some areas on Eglin AFB cantonment areas.

The safety analyses address explosive safety, ground safety, and flight safety. Explosive safety relates to the management and use of ordnance or munitions associated with training activities and the relationship of new facilities relative to potentially hazardous areas, as well as the potential for encountering UXO during ground-disturbing activities. Ground safety is focused on construction safety issues associated with development of the facilities and infrastructure. Flight safety, as it relates to the Proposed Action, has primarily to do with construction in or near existing CZs and APZs.

3.6.2 Affected Environment

Eglin Main

Explosive safety quantity distance areas are established under Air Force Manual (AFMAN) 91-201, *Explosives Safety Standards*. The ESQDs are separation distances between explosive storage areas such as storage igloos, handling areas such as weapon loading areas, and other areas such as “hot” cargo pads. ESQDs are based on the maximum storage capacity of each facility to prevent explosive propagation from one storage facility to another. Additionally, ESQDs are established to provide a safety zone between the explosive storage areas and the surrounding areas.

The largest ESQD area on Eglin Main Base is located on the north side of the runways away from the developed area. This area surrounds the facilities of the Munitions Storage Area. A second ESQD area surrounds the flightline operations zone 800 feet from the arm/disarm pads, hot refueling and aircraft parking apron, and 700 feet from the former alert apron. ESQD areas also surround the hot gun line in the main complex and the munitions loading area at Range 22 (U.S. Air Force, 2001).

Eglin Main Base has one area where UXO contamination is probable located in the southeast portion of the base near Choctawhatchee Bay.

Day-to-day operations, maintenance, and construction activities conducted at Eglin AFB are performed in accordance with applicable Air Force safety regulations, published Air Force Technical Orders, and standards prescribed by AFOSH requirements. Specific safety requirements and responses to events that may occur on Eglin Range are detailed in published range operating procedures. All aspects of ground safety at Eglin AFB are within Air Force standards. The safety practices and procedures have been firmly established, and these proven standards will continue to be adhered to.

Day-to-day construction activities conducted by personnel at Eglin AFB are performed in accordance with applicable Air Force safety regulations, published Air Force technical orders, and standards prescribed by AFOSH requirements. Developers working on the installations are required to prepare appropriate job site safety plans explaining how job safety will be assured throughout the life of the project. Developers are also required to follow applicable OSHA requirements.

Duke Field

Duke Field has three ESQD areas of concern. The largest is associated with the Munitions Storage Area located in the northwest corner of the cantonment area. Two smaller ESQDs are associated with flightline operations and are located in the southeast portion of the cantonment. There is also one area of possible UXO contamination located in the northwest corner of the cantonment area near the Munitions Storage Area. CZs and APZs are located at the north and south ends of the runway, as well as near the Assault Landing Zone (ALZ), Short Take-off Vertical Landing (STOVL) pads, and Landing Helicopter Amphibious (LHA) deck.

7 SFG(A)

The 7 SFG(A) Cantonment does not have any ESQD areas of concern. The entire cantonment area is, however, considered to have possible UXO contamination concerns. There are no CZs or APZs located at the 7 SFG(A) Cantonment.

Camp Rudder

Currently five explosive storage facilities exist in the southern portion of the cantonment area and have established ESQD arcs. All development should respect the restrictions that exist due to the ESQD arcs. The southwest corner of the cantonment overlaps the CZ associated with the adjacent north-south runway.

Site C-6 20 SPCS Area

Site C-6 does not have any munitions storage areas of concern. However, the entire area is associated with probable UXO contamination. The 20 SPCS also requires the maintenance of a 2.5 nautical mile radius circle of restricted airspace around its facilities.

3.6.3 Environmental Consequences

3.6.3.1 No Action Alternative

Under the No Action Alternative, the projected facilities and infrastructure would not be constructed or demolished, and would therefore have no impact on safety.

3.6.3.2 Alternative 1

New munitions storage facilities would require Explosive Site Plan packages to be submitted in accordance with AFMAN 91-201, *Explosives Safety Standards*. These Explosive Site Plans would illustrate the relationships and requirements between surrounding exposures and the facilities being sited. No adverse impacts to explosive safety from implementation of the Alternative 1 are anticipated.

The 96th Test Wing Safety Office (96 TW/SE), 96th Test Wing Range Support Squadron (96 TW/RANSS), and the 96th Civil Engineering Squadron/Explosive Ordnance Disposal Squadron (96 CES/CESD) are responsible for UXO management and clearance on active ranges supporting current missions. Any activity that disturbs the ground within the Eglin AFB Range Complex must be processed through 96 TW/SE. Surface and subsurface activity within the area delineated as probable UXO contamination requires extensive surveying and remediation prior to 96 TW/SE approval. Construction or other ground-disturbing activities proposed in areas of possible or probable UXO contamination would be fully vetted and coordinated through 96 TW/RANSS and 96 CES/CESD. An Explosive Safety Submission through the Department of Defense Explosive Safety Board may be required prior to the start of any ground disturbing activities. Through this coordination, no adverse impacts from UXO are anticipated.

Any facilities proposed to be constructed or altered within the CZs or APZs would be sited and constructed in accordance with DoD Instruction 4165.57, *Air Installations Compatible Use Zones (AICUZ)*. By operating in accordance with the AICUZ, there would be no adverse impacts anticipated.

No unique construction practices or materials would be required to construct facilities. During construction, renovation, and demolition, standard industrial safety standards and BMPs would be followed. These would include implementing procedures to ensure that guards, housekeeping, and personal protective equipment are in place; establishing programs and procedures for lockout, right-to-know, confined space, hearing conservation, forklift operations, and so on; conducting employee safety orientations and performing regular safety inspections; and developing a plan of action for the correction of any identified hazards. No unusual ground safety risks are expected from construction and demolition activities.

3.6.3.3 Alternative 2

The environmental consequences related to safety would be the same as discussed above in Section 3.6.3.2 for Alternative 1.

3.7 SOCIOECONOMICS

3.7.1 Definition

Socioeconomic resources are defined as the basic attributes associated with human activities. The development of the cantonment areas would involve construction of facilities and infrastructure for military personnel, civilians, military retirees, and dependents at Eglin AFB. The Proposed Action may have the potential to affect local economic activity (including employment and income). Potential socioeconomic impacts also include those that would expose low-income and minority populations to disproportionate negative impacts or pose special risks to children (under 18 years old) due to noise and other conditions in cantonment areas adjacent to communities. The socioeconomic receptors include nearby communities and property that are impacted by the noise from Eglin AFB construction. Some of these communities include low-income or minority populations.

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. In addition to environmental justice issues are concerns pursuant to Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, which directs federal agencies to the extent permitted by law and appropriate and consistent with the agency's mission to (a) make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and (b) ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

Socioeconomics does not have an applicable regulatory setting. NEPA provides no specific thresholds of significance for socioeconomic impact assessment. Significance varies, depending on the setting of the Proposed Action (40 CFR 1508.27[a]), but 40 CFR 1508.8 states that indirect effects may include those that are growth-inducing and others related to inducing changes in the pattern of land use, population density, or growth rate.

3.7.2 Affected Environment

The ROI for the socioeconomic and environmental justice resources for the Proposed Action is defined as Okaloosa, Santa Rosa, and Walton Counties. Potential impacts would be concentrated within these three counties.

The future base population at Eglin AFB is anticipated to fluctuate significantly over the next several years, with an overall increase of base strength by fiscal year 2016. The increase in

population will have a direct impact on the required facilities and infrastructure. Relatively new missions such as the 7 SFG(A), and the Aviation Foreign Internal Defense (AvFID) at Duke Field, as well as the JSF, are expected to continue to grow in the coming years.

Of the five cantonment areas, only Eglin Main is located adjacent to local communities that may be adversely affected by construction noise or other impacts. As discussed in Section 3.5, construction noise levels that would be considered significant (above 65 dBA) only extend to approximately 700 feet from the construction site. There are no communities located within 700 feet of Duke Field, the 7 SFG(A) Cantonment, Camp Rudder, or the Site C-6 20 SPCS Area.

3.7.3 Environmental Consequences

3.7.3.1 No Action Alternative

Under the No Action Alternative, the C&D activities proposed would not be implemented. Under this alternative, there would not be adequate facilities and infrastructure to support the evolving DoD missions at Eglin AFB. This could result in adverse impacts for Eglin AFB personnel and dependents, particularly as the base population continues to grow.

3.7.3.2 Alternative 1

Construction projects associated with Alternative 1 would generate additional employment in the local region, particularly in the construction industry. It is possible that the magnitude of the construction activity would spur an increase in migration to the area as construction workers migrate to the area with construction opportunities. However, with the current capacity in the construction industry, it is expected that most of the new construction jobs would be filled by local workers that are currently unemployed or underemployed. Additionally, the construction activities would provide only temporary employment. Once the construction activities are complete, no additional construction employment would be required. Therefore, construction activities related to the Proposed Action would be expected to generate temporary beneficial but not significant impacts to employment and economic activity in the ROI.

Development projects at Eglin Main Base would be sited taking into account concern for the adjacent communities, such as Valparaiso to the east and Shalimar, Poquito Bayou, and Lake Lorraine to the west, which could potentially be impacted by construction noise. However, it is unlikely that many projects would occur in the area immediately adjacent to Eglin's boundary such that the communities would be adversely affected by construction noise. To mitigate any potential future impacts, projects would continue to be appropriately sited. Therefore, no significant impacts to socioeconomic resources or environmental justice areas are anticipated from construction activities under the Proposed Action.

3.7.3.3 Alternative 2

Under Alternative 2, the socioeconomic impacts would be similar to those stated for Alternative 1, though potentially slightly increased due to the larger scope of the C&D projects.

There would be a minor and temporary benefit to socioeconomic resources during the construction phase from the use of labor and supplies. No disproportionately adverse impacts on minorities or children are expected to occur.

3.8 UTILITIES

3.8.1 Definition

The discussion of utilities in place at Eglin AFB includes all infrastructure systems and assets, including electrical distribution, communication, natural gas, potable water for human consumption, nonpotable water for fire suppression, and wastewater disposal.

3.8.2 Affected Environment

The cantonment areas are all previously developed areas that support various military operations, lodging, and other services. Therefore, in most cases utility and infrastructure are readily available. Figure 3-17 and Figure 3-18 illustrate the utility infrastructure available in each of the cantonment areas.

Eglin Main Base

Gulf Power provides electricity to Eglin AFB; however, the Air Force owns and operates the entire electric system on the base. Natural gas is provided to Eglin AFB by the Okaloosa Gas District, which is the primary natural gas provider to Okaloosa County. Communications systems on Eglin Main Base are extensive and include telephone, secure and non-classified internet, and television connectivity.

Potable water systems in Florida are regulated by FDEP, which along with the Florida Safe Drinking Water Act, ensures compliance with standards identified in the Safe Drinking Water Act (42 USC 201, 300 *et seq.*) and the National Primary Drinking Water Regulations. The FDEP classifies a public water system as one with at least 15 service connections or regularly serving 25 individuals per day for at least 60 days of the year. The proposed facilities that would be considered public water systems would comply with all state regulations. Wastewater is water that has been used and contains suspended or dissolved waste material. Examples of these waste materials may include soaps and detergents, food waste, human waste, etc. The wastewater must be treated at a wastewater treatment plant (WWTP) before it can be released into waterways. The CWA (33 USC 1151 *et seq.*) is the federal legislation governing wastewater. Regulations are implemented through the NPDES permitting system (40 CFR 122), general pretreatment programs (40 CFR 403), and categorical effluent limitations, including limitations for pretreatment of direct discharge (40 CFR 405 *et seq.*).

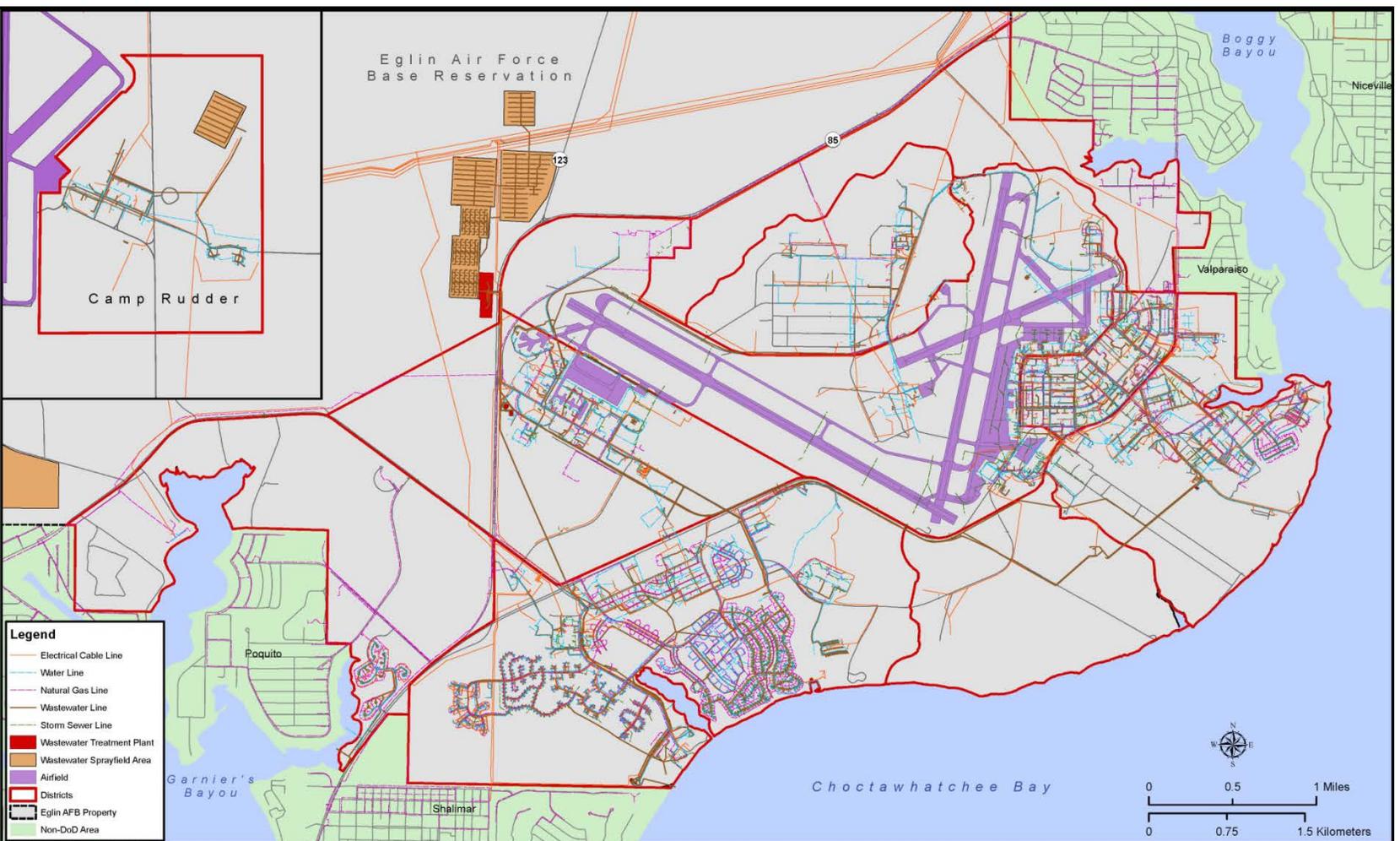


Figure 3-17. Utility Systems at Eglin Main and Camp Rudder

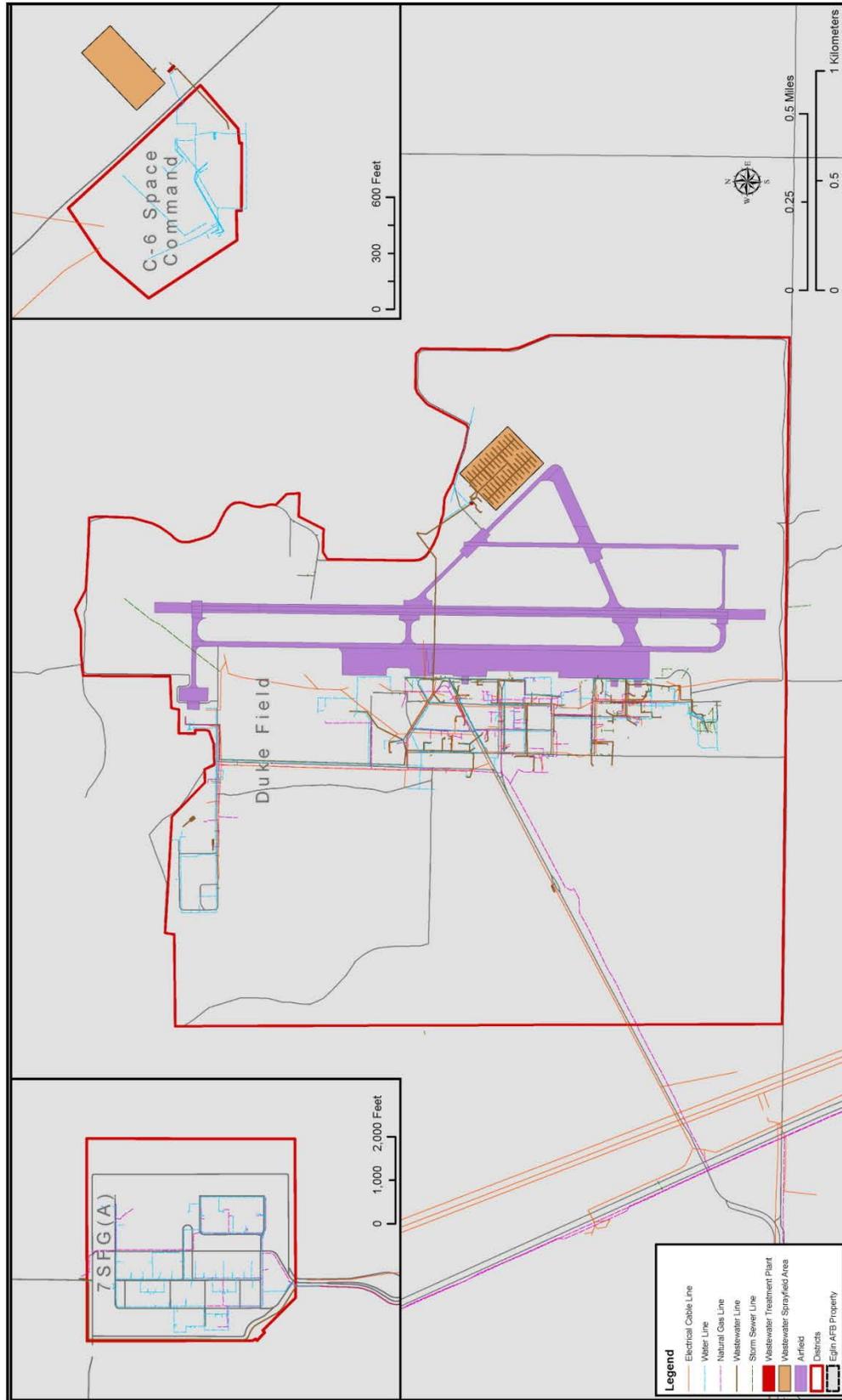


Figure 3-18. Utility Systems at Duke Field, the 7 SFG(A) Cantonment, and Site C-6 20 SPCS

State regulations include the Florida Air and Water Pollution Control Act (Florida Statutes, Title 28 Section 403), which governs industrial and domestic wastewater discharges in the state. The state regulations are implemented through FAC 62-600 through 62-660, and they establish water quality standards, regulate domestic wastewater facility management and industrial waste treatment, establish domestic WWTP monitoring requirements, and regulate stormwater discharge. Due to the use of land made available by Eglin AFB for spray irrigation, there are no permitted discharges of wastewater effluent to the Choctawhatchee Bay. Wastewater at Eglin AFB is processed at five treatment plants owned and operated by the installation. Permitting and compliance management is performed by the 96 CEG/CEIE.

Duke Field

Electrical power is provided to Duke Field via the Valparaiso substation at Eglin Main Base. Electrical distribution within the cantonment is aboveground with wood poles and pole-mounted transformers. The preference is concrete poles with ground-mounted transformers. There is adequate electrical capacity to support future development. Redundant capability of the electrical distribution system exists. The electrical distribution system is also being considered as part of the utility privatization effort.

Okaloosa County supplies Duke Field with natural gas through a high pressure pipeline along the main access road. Service is provided throughout the cantonment through 4-inch and 2-inch mains with 0.5-inch building laterals. There is sufficient natural gas capacity to support long-term future development.

Similar to Eglin Main Base, Duke Field has extensive and well-developed communications infrastructure. Telephone, internet, and television are available.

Domestic and fire protection water supply for Duke Field is provided through deep water wells, an elevated storage tank, and exterior water distribution. The existing water wells are in good condition and provide adequate capacity. A 30-inch water main owned by Okaloosa County is located along Highway 85.

A 200-foot elevated storage tank was recently constructed south of the Medical Clinic to alleviate fire suppression water pressure and quantity shortfalls at Duke Field. Water service is provided to facilities through 8-inch mains connecting to each elevated storage tank.

The wastewater collection system consists of gravity flow mains connecting lift stations to the Duke Field WWTP. According to the *2001 Eglin and Duke Field Master Plan*, the plant's capacity is 125,000 gallons per day (GPD) (U.S. Air Force, 2001). Recent records indicate that the current usage is approximately 15,000 GPD, with increases up to 24,000 GPD on reserve duty training weekends (U.S. Air Force, 2013a). As of May 22, 2013, domestic wastewater generated at Duke Field flows to the Okaloosa County Arbennie Pritchett Plant in Fort Walton Beach. The existing wastewater system has sufficient capacity to support future development.

7 SFG(A)

Electrical power is provided to the 7 SFG(A) Cantonment via a newly constructed substation located adjacent to the existing Gulf Power transmission lines that parallel the east side of Highway 85. The substation is solely for the 7 SFG(A) Cantonment and consists of a high voltage bus, one 28 million volt-ampere (MVA) transformer, and 12.47 kilovolts (kV) main and transfer busses. The substation has the capacity for an additional 28 MVA transformer. Electrical distribution within the cantonment is underground and includes two groups of two 300A feeders. Uninterrupted power supply is provided to mission critical facilities through emergency generators.

Okaloosa County supplies the 7 SFG(A) cantonment with natural gas through a high pressure pipeline along the main access road to the southern boundary of the site. Service is provided throughout the cantonment, and there is sufficient natural gas capacity to support long-term future development.

The Group Headquarters facility serves as an Information Transport Node (ITN) for the cantonment telecommunications infrastructure. Communication requirements include telephone service, both secure and non-classified internet connectivity, television, and closed-circuit television (CCTV). Telephone service is provided through voice-over-internet-protocol (VOIP) over the Eglin Network. Single mode fiber and copper cable pairs are provided from the ITN to each facility in the cantonment.

Domestic and fire protection water supply is provided through two water wells, two elevated storage tanks, and exterior water distribution. Lawn irrigation is provided through shallow, non-potable water wells.

Two water wells were drilled and installed in the Floridan aquifer for potable water supply demands in accordance with FAC Chapters 40A-3 and 62-532, *Regulation of Wells*. The estimated total daily demand programmed in the *2008 7 SFG(A) Master Plan* is 288,000 gallons (U.S. Air Force, 2008). Each well diameter is 12 inches, and maximum depth is approximately 1,000 feet to provide a capacity of 500 gallons per minute (GPM).

Two elevated storage tanks provide on-site storage capacity totaling 400,000 gallons. The height of each elevated storage tank is set to meet the most hydraulically demanding fire flow, which is 1,600 GPM for a duration of 120 minutes. The storage volume was calculated in accordance with Technical Instruction (TI) 814-01 and FAC Rule 62-555.320(19).

The wastewater collection system consists of gravity flow mains connecting to a lift station sited outside of the northern boundary fence. The force main travels around the west edge of the cantonment, inside the fence. Then it proceeds south through the Eglin Reservation to Okaloosa County's Arbennie Pritchett Water Reclamation Facility, located in Fort Walton Beach. The force main travels along RR 237, 213, 236, and 636. The master lift station and 17-mile force main are owned, operated, and maintained by Okaloosa County in a utilities easement from Eglin 96 CEG.

The wastewater system for the 7 SFG(A) cantonment was designed for a total flow of 345,000 GPD. Current flow equates to approximately 26,000 GPD. The existing wastewater system has sufficient capacity to support future development.

Camp Rudder

Electric service is provided to Eglin AFB by Gulf Power Company and Choctawhatchee Electric Cooperative (CHELCO) through eight substations. The main electric supply for Camp Rudder is supplied by Gulf Energy from the West Range substation located nine miles south of RR 236. The distribution system through Camp Rudder is primarily overhead, but located underground in the family housing area. There is no redundant source of power to Camp Rudder. Natural gas service is not available at Camp Rudder. Propane gas is utilized for heating and hot water. Eglin AFB provides the propane gas tanks and contracts with the supplier. Communications within Camp Rudder are provided through connections to the Eglin AFB communications network fiber optic connection.

Water service is provided by two on-site wells that supply two elevated water tanks. The distribution system within the cantonment is a looped system of asbestos cement concrete pipe and polyvinyl chloride (PVC) pipe. Water capacity and pressure are adequate for fire. Wastewater service is provided via gravity lines throughout the area with connections to a package treatment plant located north of the camp. The sewage facility is designed to treat 99,000 gallons a day and is currently operating at 35 percent capacity. Stormwater is collected by a combination of aboveground drainage ditches and culverts. There is no storm sewer system at Camp Rudder. Infiltration of surface stormwater is promoted by sandy soils.

Site C-6 20 SPCS Area

Electric service to the Site C-6 20 SPCS Area is provided via two PowerSouth transmission lines: one from Alabama and one from Freeport, Florida/Defuniak Springs, Florida. Site C-6 has its own substation to supply power to its facilities and radar equipment, which is the leading user of electricity on Eglin Reservation. No natural gas infrastructure exists at Site C-6. Communications within the Site C-6 Area are provided through underground connections to the Eglin AFB communications network.

Water service is provided via a well and stored in an elevated water tower, and is supplied to various facilities via water mains. Wastewater at Site C-6 is collected and treated at the C-6 WWTP just east of the cantonment. Currently no wastewater line mapping data exist for Site C-6. Wastewater lines are assumed to be adjacent to the water mains. Stormwater is collected by a combination of aboveground drainage ditches and culverts. There is no storm sewer system at Site C-6. Infiltration of surface stormwater is promoted by sandy soils.

3.8.3 Environmental Consequences

3.8.3.1 No Action Alternative

Under the No Action Alternative, the projected facilities and infrastructure would not be constructed or demolished, which would have no impact on the utilities infrastructure on Eglin AFB.

3.8.3.2 Alternative 1

Electrical infrastructure is available and intact at all five cantonment areas. All cantonment areas have sufficient electrical capacity for expansion and support of future developments. The Eglin Main, Duke Field, and the 7 SFG(A) Cantonment natural gas supplies are adequate to support future expansion. It is not anticipated that Camp Rudder or Site C-6 would require installation of natural gas supplies. The Air Force would coordinate with Okaloosa County with regard to an alteration of the natural gas infrastructure. The communications networks at the cantonment areas would support future developments. As a result, the Air Force does not anticipate any adverse impacts from implementation of Alternative 1.

Any required alterations of potable water systems would be conducted in accordance with FDEP and federal regulations, including the Florida Safe Drinking Water Act and Safe Drinking Water Act (42 USC 201, 300 *et seq.*) and the National Primary Drinking Water Regulations.

Likewise, any action that would affect wastewater would be conducted in accordance with the CWA and NPDES permitting system. The Florida Air and Water Pollution Control Act governs industrial and domestic wastewater discharges in the state, and would also be followed. Permitting and implementation would be coordinated with FDEP as necessary. Through proper coordination and permitting, no adverse impacts related utilities would be expected.

3.8.3.3 Alternative 2

The environmental impact from implementation of Alternative 2 would be similar to those stated for Alternative 1. However, due to the increased scope of the proposed development actions under Alternative 2, the utilities requirements would be increased as well. There is sufficient capacity to support the proposed developments under Alternative 2. Therefore, no adverse impacts are anticipated from the implementation of Alternative 2.

3.9 WATER RESOURCES

3.9.1 Definition

Water resources potentially impacted by the Proposed Action include groundwater, surface water, stormwater, wetlands, floodplains, and the coastal zone.

Groundwater. Groundwater is defined by the U.S. Geological Survey (USGS) as “water that flows or seeps downward and saturates soil or rock, supplying springs and wells” (USGS, 2010). A deposit of subsurface water that is large enough to tap via a well is referred to as an “aquifer.”

Surface water. Surface water is defined as any water on Earth's surface and includes lakes, rivers, and streams (USGS, 2010). Surface waters are important for a variety of reasons, including economic, ecological, recreational, and human health. Surface waters have the potential to be impacted by land clearing and construction activities.

Stormwater. Stormwater refers to water originating from precipitation events that flows over land or impervious surfaces and is not absorbed into the soil or ground. Stormwater can adversely affect water quality, aquatic habitats, and the hydrologic characteristics of streams and wetlands and can increase flooding. Land-disturbing activities (such as clearing and grading) and the addition of impermeable surfaces (concrete, asphalt, etc.) would result in increases in stormwater runoff.

Wetlands. Wetlands are defined in the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas" (USACE, 1987). The majority of jurisdictional wetlands (wetlands that fall under state or federal regulatory authority) in the United States are described using the three wetland delineation criteria: hydrophyte vegetation, hydric soils, and hydrology (USACE, 1987).

Floodplains. Floodplains are lowland areas adjacent to surface water bodies (e.g., lakes, wetlands, and rivers) that are periodically covered by water during flooding events. Floodplains are biologically unique and are also highly diverse ecosystems that provide a rich diversity of aquatic and terrestrial species, acting as a functional part of natural systems (Mitsch and Gosselink, 2000).

Coastal zone. The CZMA provides for the effective, beneficial use, protection, and development of the U.S. coastal zone. Under the CZMA, the term "coastal zone" is defined as coastal waters and adjacent shore lands strongly influenced by each other and in proximity to the several coastal states, including islands, transitional and intertidal areas, salt marshes, wetlands, and beaches. The landward boundaries of the state of Florida are defined by the state, in accordance with Section 306(d)(2)(A) of the CZMA, as the entire state of Florida. Since all of Florida is within the coastal zone as defined by the CZMA and Florida's Coastal Management Program, all of the potentially affected resources discussed and analyzed in this chapter are coastal resources.

Analysis Methodology

Potential direct and indirect impacts can be evaluated by calculating the distance stormwater would travel from the affected environment (site of construction activity) to surface water near the affected environment. Also considered is the permeability of the site's ground cover (foundation, vegetation, asphalt, etc.) and the erosion potential due to the site's topography (slope) and expected annual rainfall. Once a construction/demolition/renovation site is disturbed or cleared, the stormwater-carried sediment and sometimes site pollutants (such as construction debris or POLs) may flow away from the affected environment and alter the water quality of nearby aquatic habitats and the hydrologic characteristics of nearby creeks and associated wetlands; increased flooding could result.

The USEPA gives guidance on acceptable stormwater runoff volumes and velocities in its *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*. Chapter 4, Section II, of that document states, “To the extent practicable, maintain development peak runoff rate and average volume at levels that are similar to predevelopment levels” (USEPA, 1993). Using this guidance, impacts have been predicted in previous Eglin AFB EAs by comparing calculated stormwater runoff volumes and velocities simulating conditions before and after the Proposed Action using the SCS WinTR-55 model. The quantitative analysis is used to predict stormwater runoff as (1) increases in runoff volume and (2) velocity, due to land clearing and/or increases in impervious surfaces over current conditions. The model is used in this EA to calculate relative stormwater increases at each cantonment area using the total disturbed acreage for each cantonment’s notional projects as the addition of impervious pavement to existing conditions. Once specific details (sizes and locations) for the notional sites are determined, the model can be re-run to calculate storage volumes required for stormwater management structures and implemented into construction design if necessary.

3.9.2 Affected Environment

Groundwater

The two aquifers located under Eglin AFB, and therefore the five cantonment areas, are the sand and gravel aquifer and the Floridan aquifer. The Floridan aquifer is located below the sand and gravel aquifer and extends beneath peninsular Florida. The sand and gravel aquifer is not a primary source of domestic or public supply water on Eglin AFB because of the large quantities of higher quality water available from the underlying upper limestone of the Floridan aquifer (NFWFMD, 2008). The top of the Floridan aquifer is about 50 feet below mean sea level (MSL) in the northeast corner of the base and increases to about 700 feet below MSL in the southwestern area of the base. The top of the aquifer is about 400 to 450 feet below MSL in the Eglin Main Base area.

Increasing concerns about the existing and anticipated water supply from the Floridan aquifer have resulted in the designation of the coastal areas of Region II, south of Eglin AFB in Santa Rosa, Okaloosa, and Walton Counties, as a Water Resource Caution Area (WRCA). The WRCA designation by the NFWFMD requires withdrawal permittees to implement water conservation measures and maximize their water use efficiency. In addition, permittees in the WRCA are subject to increased water use reporting requirements. The WRCA designation also prohibits the use of the Floridan aquifer for non-potable purposes (NFWFMD, 2008). All cantonment areas have wells and are displayed on water resource maps.

Surface waters, wetlands, and floodplains

Eglin Main: Eglin Main has 20 watersheds predominately draining to the south toward Choctawhatchee Bay (Figure 3-19). The northwest portion of Eglin Main is relatively undeveloped with large spans of green space and two small streams draining toward Poquito Bayou and Garnier's Bayou. The area west of runway 01/19 is an industrialized area but also contains green open spaces but no surface water features, wetlands, or floodplains. The industrialized area near the flightline and Munitions Storage Area is located near branches of Toms Creek, which drains to Boggy Bayou and then into Choctawhatchee Bay. The commercialized area east of runway 01/19 is void of surface water features, but stormwater drainage is to Weekly Pond to the southwest. The southern portion of Eglin Main is coastal, bordering Choctawhatchee Bay within the 100-year flood zone. The east side of Eglin Main supports coastal wetlands that drain to Choctawhatchee Bay. Wetlands, Jack's Lake and Jack's Lake Branch, are situated in the central southern portion of Eglin Main and drain to Choctawhatchee Bay. Upper Memorial, Lower Memorial, and Ben's Lake are in the southwest section, directly draining to Choctawhatchee Bay.

7 SFG(A): The 7 SFG(A) campus does not have any surface water features, wetlands, or floodplains (Figure 3-20). There are several unconnected wetland strips to the north, east, south, and west of the property, but at least 1,000 feet (0.2 mile) away from the 7 SFG(A) boundary.

Duke Field: Duke Field is not in a floodplain, but has several unconnected wetland strips to the north, south, and east of the airstrip outside of the property boundary. Pearl Creek reaches to the west side of the property and is a cultural restricted area. Silver Creek and the unnamed tributary of Juniper Creek are at least 1,000 feet (0.2 mile) away from the Duke Field boundary.

Site C-6 20 SPCS Area: Site C-6 20 SPCS Area lacks surface water features, wetlands, and floodplains, but is nestled in the Little Basin Creek watershed, which flows south toward Little Basin Creek. The nearest wetland is approximately 760 feet away (0.125 mile), south of the Site C-6 20 SPCS boundary.

Camp Rudder: Camp Rudder has high quality ecological habitat on the southwest corner of the property, which continues beyond the property's boundary to the south and east until it reaches unconnected wetland strips at least 1,000 feet away (0.2 mile). There are no other surface water features, and Camp Rudder does not lie in a floodplain.

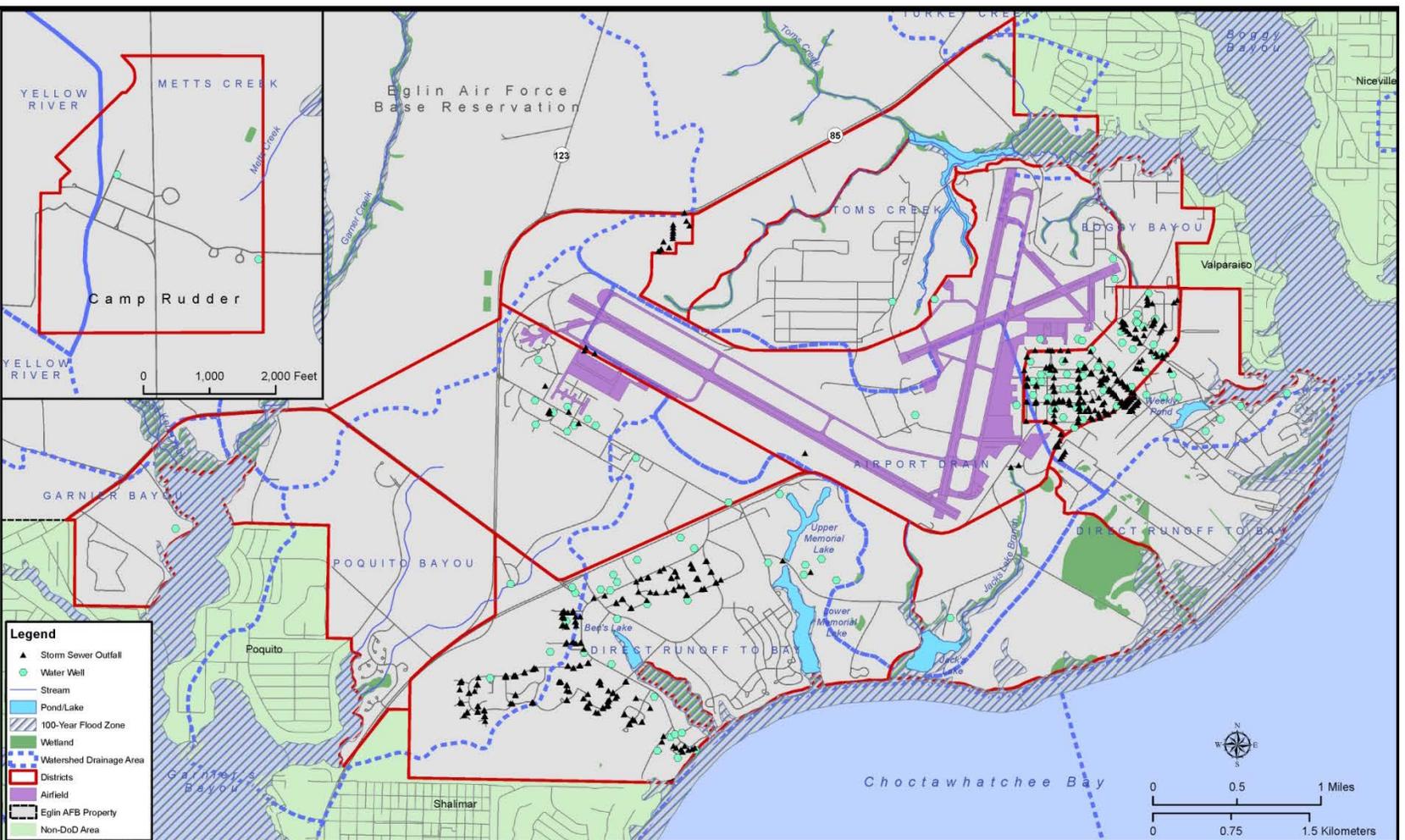


Figure 3-19. Water Resources at Eglin Main and Camp Rudder

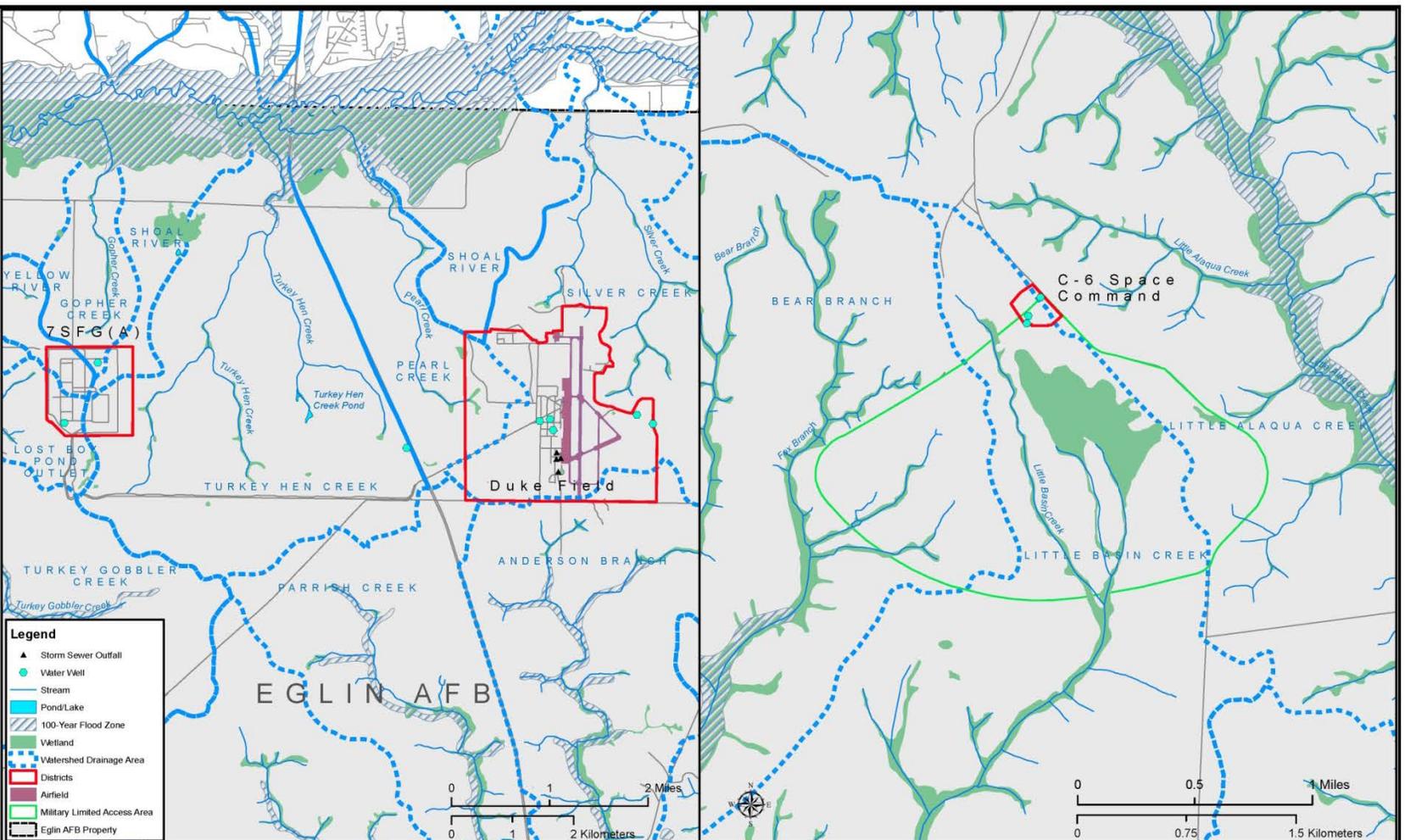


Figure 3-20. Water Resources at Duke Field, the 7 SFG(A) Cantonment, and Site C-6 20 SPCS

Stormwater

Eglin Main: The stormwater collection system at Eglin AFB serves a variety of developed and semi-developed areas across Eglin Main Base cantonment. These include aircraft hangars and maintenance facilities, research and test installations, office complexes, warehousing, fuels storage, residential and service facilities, runways, recreational facilities, historic and cultural resources, and undeveloped areas. Nineteen of the 20 watersheds on Eglin Main are regulated for industrial waste. The 20th watershed includes only undeveloped, residential, or recreational areas. The outfalls identified in this 20th watershed are not evaluated or classified for industrial waste (U.S. Air Force, 2012a).

The 96 CEG/CEIEC (96th Civil Engineer Group/Compliance) administers the Stormwater Pollution Prevention Plan (SWPPP) in compliance with the NPDES Florida multi-sector general permit (MSGP). The permit covers discharges of stormwater associated with industrial activity to the Waters of the United States and through other municipal separate storm sewer systems (MS4). The primary intent of the SWPPP is to prevent the pollution of stormwater leaving Eglin Main Base property. Specifically, the SWPPP help managers identify and implement BMPs to reduce or prevent pollutants associated with industrial activities in stormwater discharges and authorized non-stormwater discharges (U.S. Air Force, 2012a). The SWPPP does not cover new construction activities for Alternative 1 and 2 notional construction activities.

7 SFG (A): The 7 SFG Area Development Plan (U.S. Air Force, 2013b) displays a Utility Map figure for wastewater and other utilities with array of retention ponds around the cantonment area. No separate stormwater sewer system is apparent. However, two sizable retention ponds are positioned in the northwest and southwest corners within the fenced boundaries; a third and fourth pond, each about one-third the size of the first two, are positioned on the east side of the cantonment area (one inside the perimeter fence and one outside the perimeter). Another Environmental Conditions figure in the 7 SFG Area Development Plan displays a general stormwater flow pattern as outward and away from all four sides of the campus. The drainage patterns in that figure imply that stormwater runoff from the developed areas of the cantonment flow to the nearest pond for retention before flowing further off the cantonment. The SWPPP does not cover new construction activities for Alternative 1 and 2 notional construction activities.

Duke Field: Duke Field has facilities and activities subject to industrial classification under the NPDES Florida MSGP, and is reported as an individual watershed, separate from Eglin Main but included in the same SWPPP. The stormwater collection system from industrial activities includes a system of drop inlets, underground storm sewers, and open ditches. Stormwater can run off as sheet flow from some areas of Duke Field toward a nearby unnamed tributary of Juniper Creek (south of airfield) and Silver Creek (to the northeast near an actively monitored ERP site) (U.S. Air Force, 2012b). The SWPPP does not cover new construction activities for Alternative 1 and 2 notional construction activities.

Site C-6 20 SPCS Area: No stormwater conveyances are evident at Site C-6 20 SPCS. Stormwater from Site C-6 20 SPCS can travel as sheet flow or shallow concentrate across the 14-acre property from the north to the south, toward wetlands in the Little Basin Creek watershed. The SWPPP does not cover new construction activities for Alternative 1 and 2 notional construction activities.

Camp Rudder: Stormwater is not conveyed to any stormwater management structures at Camp Rudder. The swales may exist in areas around the camp and parking, but for the most part, in such a level area, rainfall would disperse in all directions, travel at shallow concentrate, and infiltrate into permeable sand. The SWPPP does not cover new construction activities for Alternative 1 and 2 notional construction activities.

Coastal Zone

The Air Force (i.e., Eglin's Natural Resources Office) would submit a CZMA or negative CZMA determination under 15 CFR 930, to the state of Florida for all construction actions in cantonment areas. The determination states that this activity would not have an effect on the Florida coastal zone concerning water resources. Eglin AFB management policies provide for the sustainable water management and the conservation of surface water and groundwater for full beneficial use.

3.9.3 Environmental Consequences

3.9.3.1 No Action Alternative

Under the No Action Alternative, notional construction activities would not go forward and there would be no need for land clearing or C&D activities; therefore, there would be no direct or indirect impact on water resources.

3.9.3.2 Alternative 1

Groundwater: The Air Force does not anticipate any impacts on groundwater. The ground disturbances for the notional construction activities of Alternative 1 are at the surface and, at most, a couple feet below the subsurface, but are not expected to impact groundwater in any way. The Air Force would coordinate with the ERP for Land Use Controls to locate and comply with restrictions near monitoring or water wells in the cantonment areas.

Surface waters, wetlands, and floodplains: No significant direct impacts on water resources are expected at any of the cantonment areas as long as construction is 50 feet away from any local surface water feature. However, increased stormwater runoff and velocity over existing conditions may have potential for indirect impacts on nearby water resources. Therefore, for construction projects greater than 1 acre (or an accumulation of projects greater than 1 acre), the Air Force must obtain from the FDEP a Generic Permit for Stormwater Discharge for Large and Small Construction Activities prior to project initiation, according to FAC Rule 62-346. Compliance with this NPDES permit involves developing and implementing a site-specific SWPPP during the construction phases of the notional activity. If an NPDES permit is required, an ERP would likely be required also, for land clearing or construction on greater than 1 acre that alters surface water flow. The Environmental Resource Permit regulates stormwater treatment and control (with the goal to achieve pre-construction stormwater conditions) and is turned over to the 96 CEG/CEIEC once the construction of the Proposed Action is complete and continues through the life of the site. Permitting requirements are discussed in more detail in Section

3.10.3.2. The Air Force would acquire any necessary permits through FDEP and the NFWFMD, and would design and build treatment/control.

The Air Force would continue to conduct routine maintenance activities in CZs and along fence lines within wetlands and floodplains. However, no new actions would take place in wetlands/floodplains. There are no anticipated adverse impacts on wetlands or floodplains as a result of continuing these currently ongoing activities. The Air Force would prepare a FONPA to support the decision to continue these required activities.

3.9.3.3 Alternative 2

The Proposed Action would not significantly affect water resources. The primary issue is the potential for indirect effects on surface waters from stormwater runoff, land-disturbing activities (such as clearing and grading), and the addition of impermeable surfaces. Impacts to water resources would be similar to those stated for Alternative 1, though potentially slightly increased due to the larger scope of C&D projects.

3.10 SOILS

3.10.1 Definition

Soil is produced by forces of weathering and other soil formation processes acting on parent material. The main processes of soil formation are accumulation of organic matter, leaching of calcium carbonate, reduction of iron, and the reduction of silicate clay minerals. If all of these processes do not occur, the resulting matrix is referred to as “sediment” (Overing, 1995).

Under certain conditions, interaction between stormwater runoff and the soil surface, in association with land disturbances, can create conditions prone to exacerbate erosion. This may result in adverse effects on land and water resources. In the absence of intervention, the loss of soil through human-induced activity can lead to erosion and permanent loss of soil. Soil erosion is a process of displacement and deposition of surface materials by either wind or water. Erosion can reduce land productivity, pollute waters, and degrade habitats (Overing, 1995).

Analysis Methodology

Soil types and physical properties were considered to determine the potential level of soil erosion that would occur during ground-disturbing activities conducted under the Alternatives 1 and 2 actions. If activities were to occur in an area where soil loss or erosion is high, the potential indirect impacts of sediment transport off site could damage waterways, cause ground instability within the affected area, and impact animal and human habitats.

Soil types, land contours, nearby surface water features, and existing vegetative cover located on the proposed sites were identified and mapped using GIS. A conservative maximum slope for the affected environments of each cantonment area was calculated as a ratio of height over distance using the highest land contour for height and length and the distance from that high point to the lowest elevation across the cantonment area. Slope was used to evaluate the potential for increased rate of stormwater runoff. Landscapes with mild slopes of less than 0–5 percent and highly permeable soil types have the greater potential for heavy rainfall to move downward into soil, in contrast to landscapes with steeper slopes, which would direct stormwater across a landscape downhill.

3.10.2 Affected Environment

Soil Types within the Five Cantonment Areas: Figure 3-21 and Figure 3-22 present the soil types underlying the affected environments of the five cantonment areas.

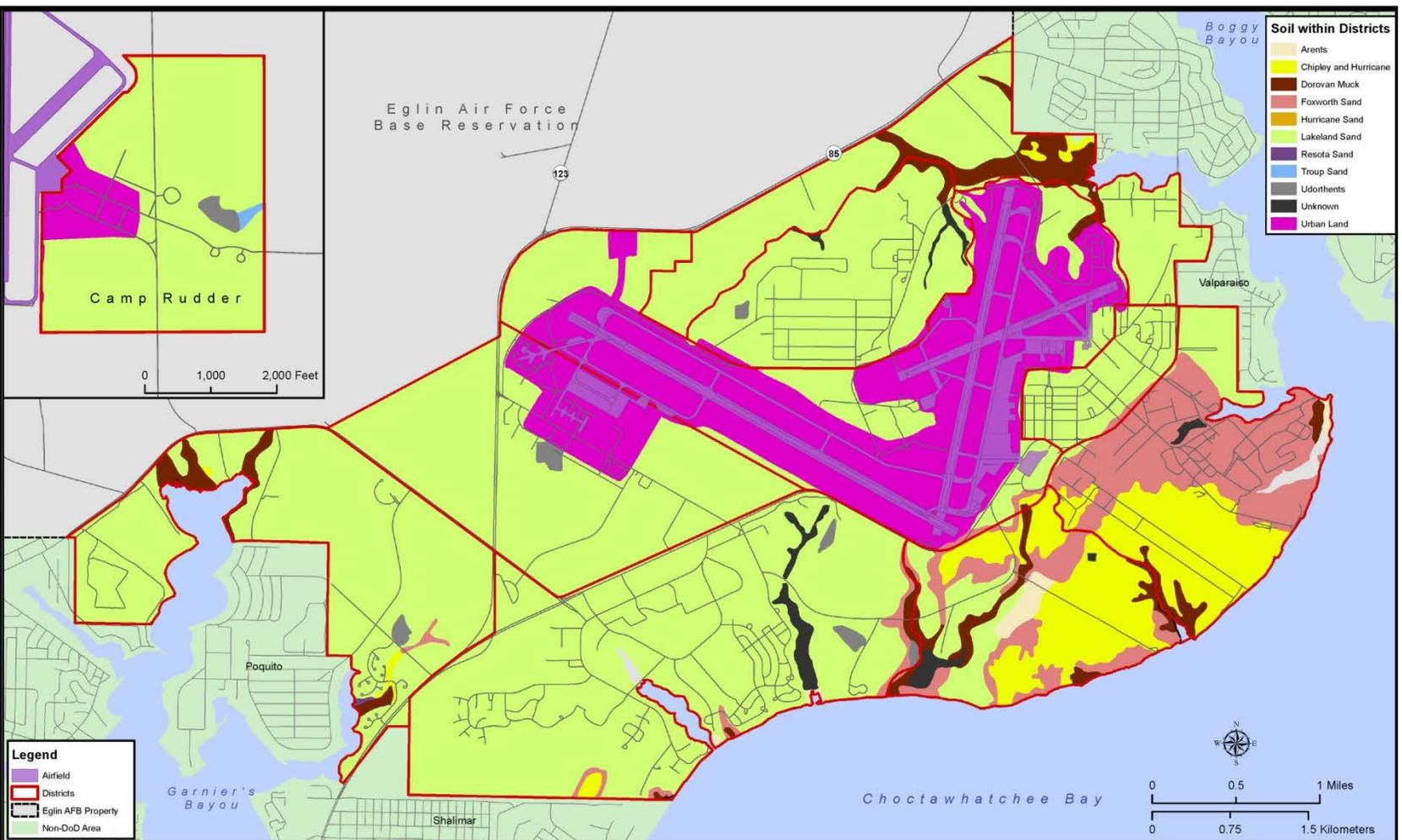


Figure 3-21. Soils at Eglin Main and Camp Rudder

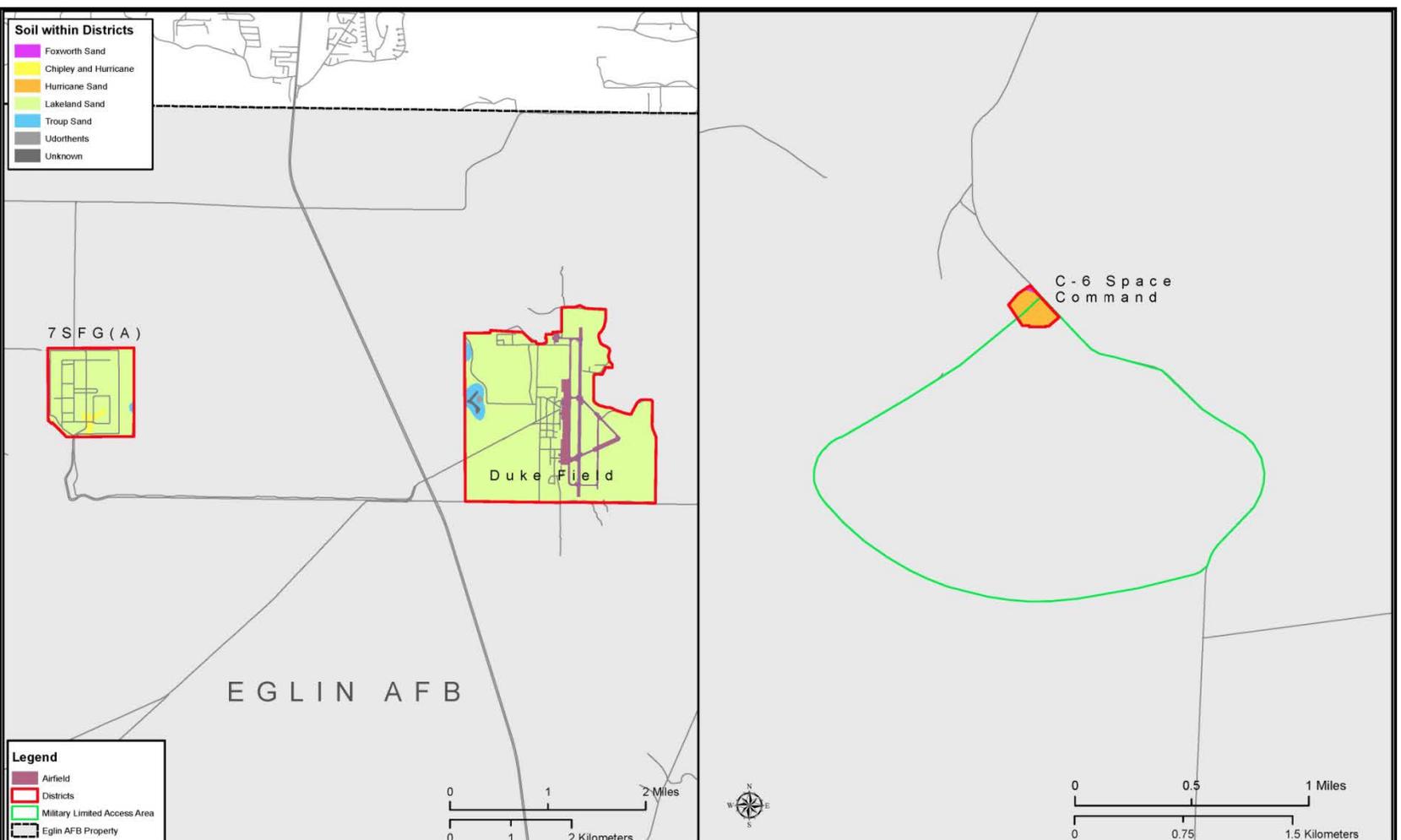


Figure 3-22. Soils at Duke Field, the 7 SFG(A) Cantonment, and Site C-6 20 SPCS Area

Lakeland sand is well documented as the dominant soil type underlying Eglin Main, 7 SFG(A), Duke Field, and Camp Rudder. Lakeland sand is excessively drained and has moderate susceptibility to erosion due to the high sand content, and is capable of absorbing high volumes of rainfall. The unique combination of almost pure sand texture and very high soil infiltration, permeability, and hydrologic conductivity has created excessively drained soils with a high capacity to move water through the soil but limited capacity to hold water and nutrients in the soil (Overing, 1995).

The southeastern portion of Eglin Main is the only area on any of the cantonments not dominated by Lakeland sand. Foxworth sand and Chipley/Hurricane sand dominate this area, with Dorovan Muck underlying the low areas draining to Choctawhatchee Bay. Foxworth sands are moderately well-drained soils, as are the Chipley soils. Permeability is also rapid for these soil types. The fenced boundary of Site C-6 20 SPCS Area is 100 percent Hurricane sand, typically exhibiting slow runoff characteristics and rapid permeability. The Hurricane series consists of very deep soils that formed in sandy marine sediment, and these soils are on nearly level to gently sloping, low, broad landscapes (Overing, 1995). The soil characteristics of cantonment area soils are conducive for high rainfall to infiltrate soil.

Topography (Slope) within the Five Cantonment Areas: Throughout Eglin AFB, slopes range from 0 to 12 percent (Overing, 1995) (Table 3-10). Only slight changes in elevation occur across Eglin Main, with a slope of less than 1 percent, with a few steep slopes limited to areas along stream banks near Toms Creek and the munitions storage area on either side of runway 19/01. Elevations were taken from Eglin Test and Training Complex Land Range Map (U.S. Air Force, 2013c). The 7 SFG(A) Cantonment, Duke Field, and Camp Rudder are also fairly level within cantonment boundaries, with average slopes less than 1 percent. However, the Site C-6 20 SPCS Area exhibits the greatest elevation change of 12 percent, lowest at the southern boundary at 75 feet above MSL, up to 160 feet above MSL at the north and west boundary along RR 208.

Table 3-10. Topography of the Five Cantonment Areas, Expressed as Average Slope

| Cantonment | Low Elevation (feet) MSL | High Elevation (feet) MSL | Height (feet) | Length (feet) | Average Slope (%) |
|-------------|--------------------------|---------------------------|---------------|---------------|-------------------|
| Eglin Main | 0 | 25 | 25 | 6,372 | <1 |
| 7 SFG(A) | 175 | 175 | 0 | 1,980 | <1 |
| Duke Field | 200 | 200 | 0 | 3,960 | <1 |
| C-6 20 SPCS | 75 | 160 | 85 | 660 | 12 |
| Camp Rudder | 70 | 135 | 65 | 8,557 | <1 |

7 SFG(A) = 7th Special Forces Group (Airborne); 20 SPCS = 20th Space Control Squadron; MSL = mean sea level

3.10.3 Environmental Consequences

3.10.3.1 No Action Alternative

Under the No Action Alternative, none of the notional facilities, building renovations/demolition, or improved road would be constructed. Therefore, land clearing, construction, renovation, and demolition activities that could impact soil quality would not impact soil resources on the proposed sites within the five cantonment areas.

3.10.3.2 Alternative 1

Under Alternative 1, no significant impacts on soil are expected to occur within the boundaries of any of the five cantonment areas. Soil quality would be impacted (at least temporarily) during any land clearing and/or construction activity within the affected environments of the five cantonment areas. New construction/demolition and road/airfield improvements would include grading and compacting of soil for ground stability. Impervious and/or semi-impervious substrates (road materials or building foundations) would eventually cover the areas of disturbed soils. Infrastructure improvements or renovations such as stormwater sewers, utilities, cables, etc. would penetrate the ground, disturbing and exposing sub-surface soil down to several feet, but would not be expected to reach or impact groundwater.

Eglin Main Base, 7 SFG(A) Cantonment, Duke Field, and Camp Rudder: The level and mild slopes of the proposed sites within these cantonment areas are not expected to add significantly to the velocity of stormwater across the landscape.

Site C-6 20 SPCS Area has a steeper slope (12 percent) across its landscape to contend with than the other areas, but soil quality can still be mitigated with implementation of BMPs and post-construction monitoring. The notional footprint of facilities and infrastructure to be constructed or demolished is not one large ground disturbance but a series of projects over time (years), so each project would have to mitigate soil quality with BMPs to create stable, manageable conditions that control stormwater runoff, maximize infiltration of rainwater, and stabilize driving surfaces.

Following Eglin AFB management policies to conserve soil and natural resources, the implementation of BMPs (see Chapter 5) for erosion and sediment control at construction/demolition sites would minimize soil loss by stormwater runoff and erosion. The Air Force would comply with its management practices and with measures specified in existing or required permits. Environmental Resources Permits, required for clearing more than 1 acre of land or for land disturbance that would change the direction of stormwater flow, and NPDES permits are pertinent to protect soil resources, and would likely be required on a project-by-project basis. The Air Force would coordinate with Eglin AFB 96 CEG/CEIEC for permitting requirements. The Air Force would also coordinate with the Restoration program at Eglin AFB (i.e., AFCEC/CZO Environmental Restoration) to avoid ground-disturbing activities of construction in areas that should not be disturbed, such as areas with Land Use Controls (including wells) that should be avoided.

3.10.3.3 Alternative 2

No significant impacts on soil are expected to occur within the boundaries of any of the five cantonment areas, even with the 25 percent increase in disturbed area acreages. Although the notional construction footprint would affect more total square acreage of the cantonment areas than Alternative 1, the projects are undetermined and would be of different sizes and scope, initiated over time, and different locations over the cantonment areas.

Following Eglin AFB management policies to conserve soil and natural resources requires the implementation of BMPs (see Chapter 5) for erosion and sediment control at C&D sites, which would minimize degradation of soil quality and soil loss by stormwater runoff and erosion. The

Air Force would comply with its management practices and with measures specified in existing or required permits. ERPs, required for clearing more than 1 acre of land or for land disturbance that would change the direction of stormwater flow, and NPDES permits are pertinent to protect soil resources, and would likely be required on a project-by-project basis. Proponents of an action would coordinate with 96 CEG/CEIEC for permitting requirements. Proponents would also coordinate with Restoration to avoid ground-disturbing activities of construction in areas that should not be disturbed, such as areas with Land Use Controls (including wells) that should be avoided.

3.11 CULTURAL RESOURCES

3.11.1 Definition

Cultural resources consist of prehistoric and historic sites, structures, artifacts, and any other physical or traditional evidence of human activity considered relevant to a particular culture or community for scientific, traditional, religious, or other reasons. As defined under 36 CFR 800.16 (l)(1), *historic property* means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (National Register) maintained by the Secretary of the Interior. Eglin AFB is required to comply with a wide range of federal laws, regulations, and Executive Orders. Eglin Air Force Base Instruction 13-212, *Range Planning and Operations; Eglin AFB Integrated Cultural Resources Management Plan (ICRMP)* (U.S. Air Force, 2013d); and AFI 32-7065, *Cultural Resources Management*, outline proper procedures for cultural resources management at Eglin AFB.

The analysis of cultural resources is mandated or guided by a host of federal laws, rules, and regulations. Foremost among cultural resources compliance laws is the NHPA of 1966, as amended. Under NHPA, the Air Force is required to consider the effects of its undertakings on historic properties listed or eligible for listing in the National Register, and to consult with interested parties regarding potential impacts. The National Register, authorized under the NHPA of 1966, is the United States' formal listing of cultural resources considered worthy of preservation. Properties listed in the National Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture.

All site-specific data, survey information, and supporting Florida SHPO consultation data from this document was obtained from the Cultural Resource Information Management System (CRIMS), 2013. This information can be reviewed by approval of the Base Historic Preservation Office at the 96 CEG/CEIEA Cultural Resources Office. Additional background information regarding cultural resources discussed in this document and relevant policies and history can be found in Appendix D of this EA.

3.11.2 Affected Environment

The Area of Potential Effects (APE) outlines the region affected by proposed activities for cultural resources under Alternatives 1 and 2. For the Proposed Action and alternatives, the APE is defined by the outer boundaries of the five cantonment areas. The affected environment for each area is presented below (CRIMS, 2013).

Eglin Main

Twenty-three archaeological sites considered eligible for listing in the National Register or current unassessed/under reviews are located within the boundaries of Eglin Main (Table 3-11). Ninety-five archaeological surveys have been completed within the boundaries of Eglin Main to date. No high probability areas remain to be surveyed within Eglin Main.

Table 3-11. Archaeological Sites Located in Eglin Main

| Site # | National Register Eligibility | Comments |
|-------------------|-------------------------------|--|
| 8OK00016 | Eligible | Early Woodland Deptford; Late Woodland Weeden Island; American 19th to 20th century. |
| 8OK00069 | Eligible | Early Woodland Deptford; Late Woodland Weeden Island; Mississippian Fort Walton-Pensacola |
| 8OK00071 | Eligible | Early Woodland Deptford; Late Woodland Late Weeden Island; Mississippian Fort Walton-Pensacola |
| 8OK00072 | Not Assessed | Archaic; Gulf Formational Norwood; Early Woodland Deptford; Middle Woodland Santa Rosa-Swift Creek; Late Woodland Late Weeden Island; Mississippian Fort Walton-Pensacola; American 20th century |
| 8OK00107 | Eligible | Gulf Formational, Deptford, Weeden Island, Fort Walton, Pensacola; Santa Rosa/Swift Creek from previous findings no longer apply |
| 8OK00135 | Eligible | Garnier Bayou Turpentine Operation |
| 8OK00871 | Not Assessed | Gulf Formational Elliotts Point; Early Woodland Deptford; Middle Woodland Santa Rosa Swift Creek; Late Woodland Weeden Island; Mississippian Pensacola; Early to Middle American 20th century |
| 8OK00898 | Review | Gulf Formational Elliot's Point; Middle to Late Archaic; Late Woodland Weeden; Middle to Late American 20th century |
| 8OK00937 | Review | Late Woodland Weeden Island; Early to Middle 19th century |
| 8OK00939 | Eligible | Early 20th century homestead |
| 8OK00940 | Eligible | Middle Weeden Island |
| 8OK00942 | Eligible | Late Woodland Late Weeden Island |
| 8OK00949 | Eligible | Woodland, Late Weeden Island, Late Deptford Okaloosa phase |
| 8OK00952/8OK00953 | Eligible | Late Paleoindian, Early Archaic, Gulf Formational, Elliotts Point, Deptford, Weeden Island. Historic component not addressed in the interpretations. |
| 8OK00958 | Potential | Bldg 407 was constructed in 1943 to warn approaching marine traffic when firing range 22 was directing live fire into the Bay |
| 8OK00988 | Review | Prehistoric |
| 8OK00988 | Review | Prehistoric |
| 8OK01018 | Not Assessed | Prehistoric unspecified |
| 8OK01693 | Potential | Unidentified ramp |
| 8OK01835 | Eligible | Late 19th to Middle 20th century Manuel Brown Homestead |
| 8OK01836 | Eligible | Late 19th to Early 20th century |
| 8OK01893 | Not Assessed | Military period - World War II refuse dump |
| 8OK02344 | Not Assessed | Early Archaic, Gulf Formational, Weeden Island. Historic. |

Source: CRIMS, 2013; National Register = National Register of Historic Places

There are 31 individual structures currently listed in the National Register in Eglin Main. In addition, 60 individual structures are considered eligible for listing in the National Register; 12 structures are potentially eligible; 34 structures are currently under review; and 28 structures

have not been assessed as to their eligibility. Seven historic districts either listed in the National Register or eligible for listing are located within Eglin Main. These are presented in Table 3-12.

Table 3-12. Historic Districts Located in Eglin Main

| District Name | National Register Status | District Description |
|--|--------------------------|--|
| Eglin Warehouse Historic District | Eligible | Warehouse structures listed as 800 series building numbers |
| Marine Operations Historic District | Eligible | Boat squadron operations area |
| Camp Pinchot Historic District | Listed | Original Forest Service Headquarters |
| SAC Alert Historic District | Eligible | Aircraft maintenance and operations southwest flightline |
| Eglin Field World War II Historic District | Listed | Original buildings that made up Eglin Field |
| Range A-22 Historic District | Eligible | Range A-22 |
| McKinley Climatic Laboratory Historic District | Eligible | McKinley Climatic Lab facilities |

Source: CRIMS, 2013

Davis Cemetery is located within the Eglin Main. This early 19th century cemetery is considered potentially eligible for the National Register. No traditional cultural properties (TCPs) have been identified within this area. To date, Eglin AFB has not conducted studies or consulted to identify TCPs.

Duke Field

One prehistoric archaeological site (8OK148) considered eligible for the National Register is located within the boundaries of Duke Field. Thirteen archaeological surveys have been completed within the boundaries of Duke Field to date. Two high probability areas remain to be surveyed within Duke Field.

There are six individual structures currently under review to determine National Register eligibility in Duke Field. In addition, two individual structures have not been assessed as to their eligibility. No historic districts, cemeteries, or TCPs have been identified within this area.

7 SFG(A)

Six archaeological surveys have been completed within the boundaries of the 7 SFG(A) area to date. No other high probability areas remain to be surveyed within the 7 SFG(A) area. No archaeological resources, historic structures, historic districts, cemeteries, or TCPs that are eligible for the National Register have been identified within the boundaries of this area.

Camp Rudder

Five archaeological surveys have been completed within the boundaries of Camp Rudder to date. No other high probability areas remain to be surveyed within the Camp Rudder. There is one individual structure currently under review to determine National Register eligibility within Camp Rudder. No archaeological resources, historic districts, cemeteries, or TCPs that are eligible for the National Register have been identified within Camp Rudder.

Site C-6 20 SPCS Area

One archaeological survey has been completed within the boundaries of Site C-6 20 SPCS Area to date.

No other high probability areas remain to be surveyed within the Site C-6 20 SPCS Area. There is one individual structure (Building 8640) considered eligible for the National Register within the Site C-6 20 SPCS Area. No archaeological resources, historic districts, cemeteries, or TCPs that are eligible for the National Register have been identified within the Site C-6 20 SPCS Area.

3.11.3 Environmental Consequences

3.11.3.1 No Action Alternative

No adverse effect on cultural resources would occur under the No Action Alternative. Under this alternative, none of the anticipated projects would be implemented and Eglin AFB would maintain its current infrastructure and facilities.

3.11.3.2 Alternative 1

Implementation of Alternative 1 would not cause adverse effects on identified cultural resources. Areas containing resources eligible for the National Register at all of the areas under consideration would be avoided by any proposed development activity (Figure 3-23 and Figure 3-24). If proposed development within these restricted areas is necessary, additional consideration of the development plans would be required under both Section 106 of the NHPA and NEPA. All activities associated with the Proposed Action would be implemented in accordance with Eglin's existing Base Realignment and Closure and Military Housing Privatization Initiative Programmatic Agreements which are provided in Appendix D.

Per Section 3.6.2 and Standard Operating Procedure No. 5 of the Eglin AFB ICRMP (Appendix D), if suspected cultural resources or human remains or funerary objects are inadvertently discovered, all actions in the immediate vicinity would stop, and efforts would be made to protect the find from further impact (see Section 5.2.8 of this document for additional detail). The Cultural Resources Office would be contacted to assess the find and determine what legal and procedural activities are required.

Per Standard Operating Procedure No. 6 of the Eglin AFB ICRMP (Appendix D), government-to-government consultation with federally recognized tribal groups is not anticipated under this alternative. Under this alternative, no effect on prehistoric archaeological sites eligible for listing in the National Register would occur.

3.11.3.3 Alternative 2

Impacts on cultural resources would be identical to those proposed under Alternative 1. As described under Alternative 1, with avoidance of restricted cultural resource areas and known resources, no adverse effects on cultural resources would be expected under Alternative 2. If proposed development within these restricted areas becomes necessary, additional consideration of the development plans would be required under both Section 106 of the NHPA and NEPA.

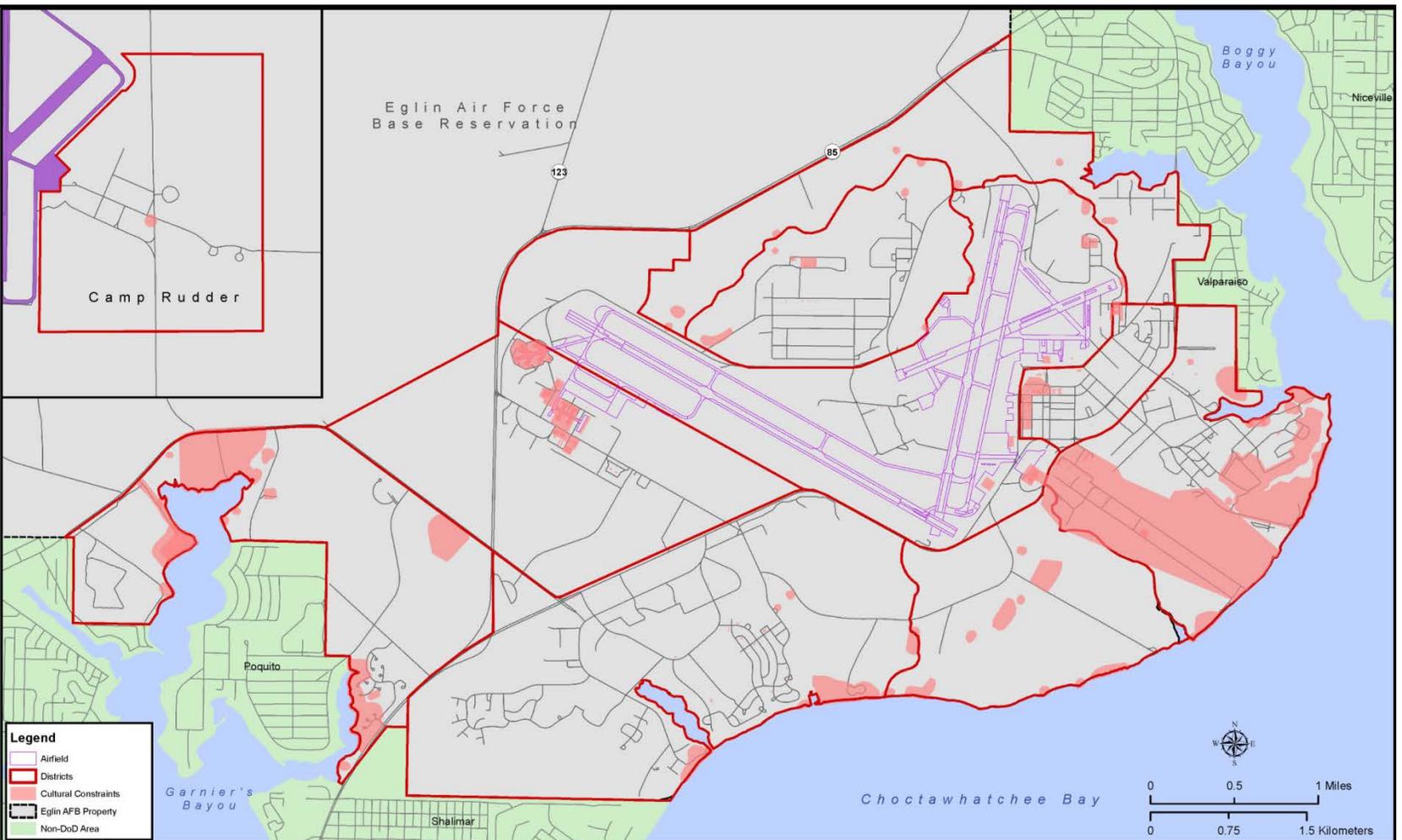


Figure 3-23. Cultural Restricted Areas for Eglin Main and Camp Rudder Areas

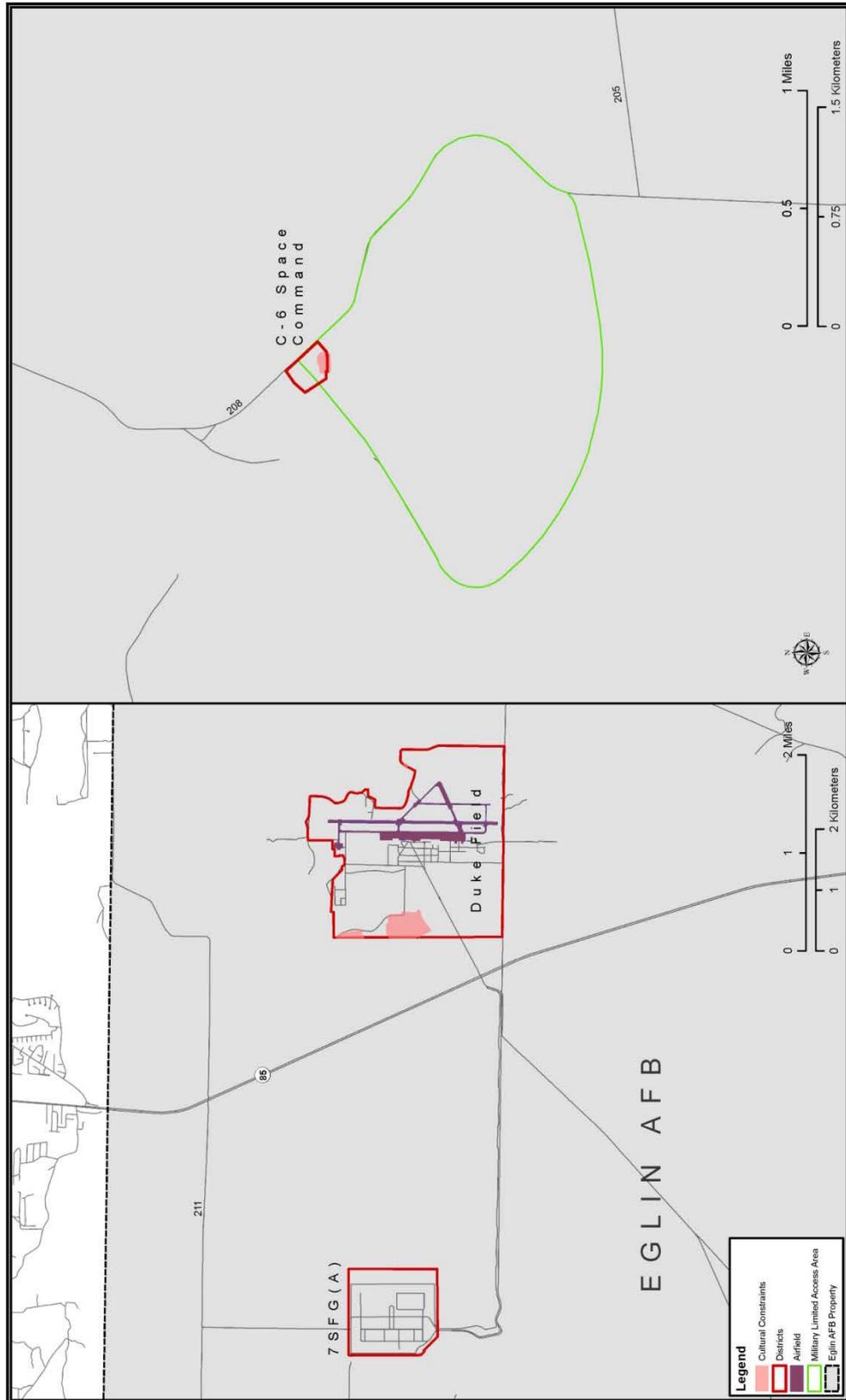


Figure 3-24. Cultural Restricted Areas for Duke Field, Site C-6 20 SPCS, and 7 SFG(A) Cantonment Areas

4. CUMULATIVE IMPACTS

Cumulative impacts on environmental resources result from incremental effects of proposed actions when combined with other past, present, and reasonably foreseeable future projects in the ROI. Cumulative impacts can result from individually minor but collectively substantial actions undertaken over a period of time by various agencies (federal, state, and local) or individuals. In accordance with NEPA, a discussion of cumulative impacts resulting from projects that are proposed, or anticipated over the foreseeable future, is required.

4.1 PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS IN THE ROI

This section discusses the potential for cumulative impacts caused by implementation of the Proposed Action when combined with other past, present, and reasonably foreseeable actions occurring in the ROI. The ROI is defined as Eglin Main Base.

4.1.1 Past and Present Actions

The Air Force has not identified any other past or present actions that are relevant to the current Proposed Action. Other future actions planned include implementation of the BRAC decisions made in 2005 for Eglin AFB and the Eglin/Hurlburt Field Housing Privatization Initiative.

4.1.2 Reasonably Foreseeable Future Actions

A Record of Decision was signed in February 2009 for the 2005 BRAC decision to establish the JSF Initial Joint Training Site (IJTS) at Eglin AFB for joint U.S. Air Force, U.S. Navy, and U.S. Marine Corps JSF training organizations to teach aviators and maintenance technicians how to properly operate and maintain this new weapons system (U.S. Air Force, 2009c). A Supplemental Environmental Impact Statement is currently under way to analyze options for new runways or reconfiguring existing Eglin runways to accommodate additional aircraft (U.S. Air Force, 2013a). As part of the 2005 BRAC decision, approximately 4,000 additional military, civilian, and contractor personnel (not including family members) would relocate to Eglin AFB. Potential impacts from these programs due to changing mission and additional personnel may include noise, air quality, munitions storage concerns, transportation, and utilities concerns, among others. Due to the BRAC decisions, the Air Force needed to conduct a new housing requirements analysis in light of the changes in personnel. Thus, the Air Force intends to privatize its housing at Eglin AFB and Hurlburt Field under a statutory program to allow it to meet its military housing requirement. This is referred to as the Military Housing Privatization Initiative (MHPI). At completion of the project, a developer would own and operate 1,477 housing units on behalf of Eglin AFB and Hurlburt Field.

Due to the importance of Eglin AFB, it is anticipated that the area will undergo many future construction and renovation projects throughout the next five years. Similar to other construction projects, any potential future projects would most likely result in impacts on land use, air quality, noise, traffic and transportation, water resources, local utilities, and hazardous materials. Potentially replacing older buildings and facilities with newer buildings and technologies would provide an overall benefit due to an increase in energy efficiency.

Implementation of BMPs as required under construction and associated permits would minimize impacts on soils, stormwater, surface water, and air quality. Overall, the cumulative impacts from the projects described above are not anticipated to be significant.

4.2 CUMULATIVE IMPACTS

Air Quality

Air quality would be temporarily impacted by construction activities occurring concurrently. The emissions from construction are expected to be minimal and would have little overall effect on regional air quality. Thus, no significant impacts on the region's air quality are expected.

Biological Resources

Localized loss of habitat, degradation of habitat, noise impacts, or direct physical impacts on species can have a cumulative impact when viewed on a regional scale if that loss or impact is compounded by other events with the same end results. Analysis of potential impacts has identified minimal potential for significant impacts on biological resources, which includes vegetation, wildlife, and threatened and endangered species and their habitat, provided Eglin AFB implements management actions and BMPs.

Hazardous Materials/Wastes

Planned and foreseeable construction, renovation, and demolition activities within Eglin AFB would result in short-term increases in the volume of hazardous wastes generated at the installation. Hazardous materials and wastes would be handled, stored, and disposed of in accordance with applicable regulations and approved plans. Air Force regulations require contractors to recycle materials to the maximum extent possible to reduce the amount of debris disposed of at off-installation landfills. Planned and foreseeable construction, renovation, and demolition activities within Eglin AFB could cumulatively impact available landfill capacity. However, due to available landfill capacity, there should be no significant cumulative impacts on hazardous materials and wastes. Therefore, no significant cumulative impacts are anticipated.

Noise

Planned and foreseeable construction, renovation, and demolition activities within Eglin AFB would cause localized increases in the area sound environment. The projects would occur in an area currently exposed to a high level of noise from aircraft operations, which dominate the sound environment. Implementing noise attenuation (reduction) measures into the design and construction of structures would minimize adverse effects on sensitive receptors. No significant cumulative impacts have been identified for noise.

Safety

No cumulative impacts have been identified for safety.

Socioeconomics

Construction, facility improvements, and infrastructure upgrades associated with past, present, and foreseeable actions would provide additional beneficial impacts on the local economy from the use of local labor and supplies. These activities would be temporary and minor, lasting only the duration of the construction and renovation activities. However, over time these activities would be anticipated to provide sustainable employment and earnings and result in beneficial cumulative impacts.

Utilities

While there is currently capacity for growth, the potential exists for cumulative impacts on utilities. However, in many cases newly constructed facilities would replace older facilities. Newer, more energy-efficient construction methods would likely contribute to an overall beneficial impact on electrical consumption. Likewise, more efficient potable water and wastewater systems could be implemented in newly constructed or renovated facilities, potentially leading to beneficial cumulative impacts.

Water Resources

Increases in stormwater runoff have the potential to decrease water quality. However, site design plans, safety plans, and permits for new development would address potential issues involving water quality degradation and help to protect water resources on Eglin AFB. Eglin AFB does not expect that the nature of this project would place additional, cumulative demands on water quality or quantity. Eglin AFB has not identified, in available analyses of foreseeable future actions, any adverse impacts on water resources or water quality. As a result, Eglin AFB does not expect any cumulative impacts associated with water resources or water quality to occur.

Soils

Past development in various locations of Eglin AFB have likely contributed to erosion and soil loss. However, the extent to which this has occurred is difficult to determine. Implementation of the Proposed Action would involve the utilization of erosion control measures to minimize the potential for erosion to adversely impact adjacent wetland areas and water quality. Eglin AFB has not identified, in available analyses of foreseeable future actions, any adverse impacts on soils or erosion. As a result, implementation of the Proposed Action and/or foreseeable future actions would not likely contribute in any appreciable manner to erosion that has occurred in the past.

Cultural Resources

Damage to the nature, integrity, and spatial context of cultural resources can have a cumulative impact if the initial act is compounded by other similar losses or impacts. The alteration or demolition of historic structures and, likewise, the disturbance or removal of archaeological artifacts may incrementally impact the cultural and historic setting of Eglin AFB.

If areas of constraint are avoided, the implementation of the Proposed Action and alternatives does not have the potential to cumulatively impact cultural resources. If the areas of constraint are avoided during any planned development, the likelihood of direct impacts on cultural resources is remote. Increased coordination with the Cultural Resources Office prior to construction would reduce the potential for cumulative impacts on archaeological resources.

4.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires that EAs include identification of any irreversible and irretrievable commitment of resources that would be involved in the implementation of the Proposed Action. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the uses of these resources could have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable timeframe. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the Proposed Action (e.g., extinction of a threatened or endangered species or the disturbance of a cultural site).

Environmental consequences as a result of this project are considered short term and temporary. Construction activities would require consumption of limited amounts of materials typically associated with interior and exterior construction (e.g., concrete, wiring, piping, insulation, and windows). The Air Force does not expect the amount of these materials used to significantly decrease the availability of the resources. Small amounts of nonrenewable resources would be used; however, the Air Force does not consider these amounts to be appreciable and does not expect them to affect the availability of these resources.

5. MANAGEMENT PRACTICES

The following is a list of regulations, plans, permits, and management actions associated with the Proposed Action as described in Section 2.2. The environmental impact analysis process for this EA identified the need for these requirements, and the proponent and interested parties involved in the Proposed Action cooperated to develop them. These requirements are, therefore, to be considered as part of the Proposed Action and would be implemented through the Proposed Action's initiation. The proponent is responsible for adherence to and coordination with the listed entities to complete the plans, permits, and management actions.

5.1 REGULATIONS, PLANS, AND PERMITS

- CZMA Consistency Determination (Appendix B, *Coastal Zone Management Act Consistency Determination*).
- Consumptive Use Permit and Potable Water System Permit may be required.
- The Air Force would incorporate a comprehensive Stormwater, Erosion and Sedimentation Control Plan and a SWPPP into the final design plans as required.
- Construction activities that have the potential to impact stormwater quality or disturb more than 1 acre of land must be permitted under the CWA NPDES Permit.
- Per Executive Order 11988, *Floodplain Management*, and Executive Order 11990, *Protection of Wetlands*, the Air Force is required to consider its actions in wetlands or floodplains. A FONPA would be obtained.
- ESA Section 7 Consultation with the USFWS will occur regarding proposed activities.
- Section 106 consultation with the SHPO and Tribes will occur as needed.
- Environmental Resource Permit.

5.2 MANAGEMENT ACTIONS

The proponent is responsible for implementation of the following management actions.

5.2.1 Air Quality

- Construction activities will employ standard management measures such as watering of graded areas, covering soil stockpiles, and contour grading (if necessary), to minimize temporary generation of dust and particulate matter.
- Diesel-powered highway and nonroad vehicles and engines used in construction will limit idling time to three minutes, except as necessary for safety, security, or to prevent damage to property; and such exhausts will be located the maximum feasible distance from any building fresh air intake vents.

5.2.2 Biological Resources

- Design building location(s) and orientation(s) to minimize the loss of trees, particularly longleaf pines.
- A gopher tortoise survey may be required before construction activities begin. Any tortoises found will be relocated. Any burrows on the project site will be investigated for the presence of eastern indigo snake. Burrows will be collapsed after investigation and relocated, if applicable, to deter subsequent occupation by additional gopher tortoises or other wildlife.
- Direct personnel to cease any activities if a black bear, indigo snake, or gopher tortoise is sighted and allow the animal sufficient time to move away from the site on its own before resuming any activities. Immediately contact Eglin's Natural Resources Office.
- Discourage human-bear interactions by responsibly handling waste and employing measures such as bear-proof dumpsters and bear-resistant garbage cans.
- Restrict vehicles to established roads and paved areas.
- Maintain at least a 100-foot vegetated buffer along Okaloosa darter and Florida bog frog streams.
- Utilize erosion control measures such as silt fencing near Okaloosa darter and Florida bog frog streams.
- To reduce potential seed sources, treat areas with known invasive nonnative species problems.
- To avoid spreading invasive nonnative species, do not drive vehicles in areas with known invasive nonnative species problems. If a vehicle is driven in such an infested area, clean the vehicle before it is driven to a noninfested area.
- Use only native plants for landscaping.
- Continue monitoring of RCWs near cantonment areas by Eglin's Natural Resources Office.
- If tree clearing occurs during nesting season, screen each inactive cavity tree during the breeding season to verify that no trees have been recolonized.
- Continue prescribed burning as much as possible in RCW foraging habitat.
- A Migratory Bird survey may be required prior to project initiation to ensure compliance with Migratory Bird Treaty Act.

5.2.3 Hazardous Materials and Waste

- Construction will adhere to the present HWMP tracking and reporting requirements, as well as AFI 32-7086.
- Nonhazardous solid waste associated with building construction activities would be recycled to the extent possible.

5.2.4 Safety

- Coordination with 96 TW/SE, 96 TW/RANSS, and 96 CES/CESD would be conducted for any activity that disturbs the ground within the Eglin AFB Range Complex. Surface and subsurface activity within the area delineated as probable UXO contamination requires extensive surveying and remediation prior to 96 TW/SE approval.

5.2.5 Utilities

- Coordination with all utility providers would be required prior to any ground-disturbing activities in an effort to minimize potential conflicts between utility providers.

5.2.6 Water Resources

- Do not alter natural flow patterns of streams by diverting water, causing siltation, or damming any portion of the stream or its tributaries.
- Vehicles and equipment must stay a minimum of 50 meters (164 feet) from the edge of slopes leading down to streams.
- For permitted off-road vehicle use, do not drive vehicles in or across streams except at designated crossing points.
- Tree clearing of any species is not permitted unless approved by Eglin Natural Resources Section.
- Install and maintain entrenched silt fencing and hay bales along the perimeter of the construction site prior to any ground-disturbing activities and maintain them in effective, operating condition prior to, during, and throughout the entire construction process to prevent fill material, pollutants, and runoff from entering wetlands or other surface waters.
- Maintain at least a 100-foot vegetated buffer between construction sites and surface waters.
- Incorporate a monitoring plan, especially after rain events, to observe the effectiveness of silt fencing, hay bales, and/or other erosion and sedimentation control devices and address modification as needed. Carefully examine and correct any failures to prevent reoccurrence.
- Replant cleared and disturbed areas with native vegetation and grasses or mulch when the final grade is established to reduce/prevent erosion. Note: For this action, gravel was proposed for the ground cover under the solar array and a 150-foot buffer to prevent potential fire hazard to solar panel array.
- Where applicable, reduce erosion using rough grade slopes or terrace slopes.
- Identify areas of existing vegetation that the proponent would retain and not disturb by construction activities.

- Conduct any repairs, maintenance, and use of construction equipment (e.g., cement mixers) in designated “staging areas” designed to prevent any chemicals, solvents, or toxins from entering the affected environment.
- Stabilize construction site entrances using Florida Department of Transportation-approved stone and geotextile (fiber fabric).
- Equip all work sites with adequate waste disposal receptacles for liquid, solid, and hazardous wastes to prevent C&D debris from leaving the work site.
- Utilize proper site planning, low-impact design principles, and adequately engineered stormwater retention ponds (or swales) to manage stormwater (on site) and prevent discharges into nearby surface waters. The design would take into consideration the landscape of the area and physical features to determine whether a retention pond or series of swales would be used to contain runoff. In accordance with FDEP regulations, a Florida-registered professional engineer would design the proposed retention feature.
- Design open channels and outfall ditches so that they do not overflow their banks.
- Where flow volumes exceed 2 cubic feet per second, provide ditch pavement or other permanent protection against scouring. Revegetate unprotected ditches with permanent material to provide an erosion-resistant embankment.
- Provide all construction personnel with proper training regarding all management techniques.

5.2.7 Soils

- Describe slopes, drainage patterns, areas of soil disturbance, areas where stabilization practices would occur, water locations, and storm discharge locations.
- Describe erosion and sediment controls, BMPs, and construction site measures (e.g., implementing mitigation measures such as vegetating barren slopes more than 15 percent, using hay bales and silt fences to reduce surface runoff into local waterways).
- Outline stabilization and structural plans to permanently stabilize soils and divert water off site and manage stormwater.
- Provide control for potential pollutants, use approved state and local plans, and prevent nonstormwater discharges.
- Provide for maintenance and inspection of all designed systems.
- Sequence construction activities to limit the soil exposure for long periods of time.

5.2.8 Cultural Resources

Cultural resource avoidance maps are provided as part of this EA. These maps take into account all cultural resources eligible for listing on the National Register, items of cultural importance, as well as areas not yet investigated for cultural resources. Any activities planned in the future should not rely on these maps for detailed planning activities. These maps by nature constantly change as new information becomes available. Any individual or organization planning future

activities within the restricted areas or near the boundaries of these areas should consult with the Cultural Resources Office in the early planning stages of any activity.

Archaeological sites in all of the areas listed within this EA considered eligible and potentially eligible for the National Register must be protected until further testing is conducted. Protection includes avoidance by fencing, marking, or other means. Coordination with the Cultural Resources Office is required to determine locations that need to be avoided and protected.

Davis Cemetery, located in the Eglin Main cantonment area, must be avoided if ground-disturbing activities are planned.

For all of the areas, location-specific cultural resource information is sensitive and being continuously updated; coordination with the Cultural Resources Office is required to obtain the latest information for any ground-disturbing activities that might impact these areas.

Coordination with the Cultural Resources Office is required for any actions that could damage structures eligible for the National Register, contributing structures to historic districts, or Cold War-era structures.

In the event that unknown cultural resources are discovered during construction in an area previously thought to be clear of cultural resources, the following procedures from SOP #5 of the Eglin AFB ICRMP will be implemented:

Inadvertent Discovery of Archaeological Artifacts

If inadvertent discovery occurs during the course of any undertaking the following steps are to be taken:

1. During mission training, if cultural material (e.g., artifacts) is discovered, the unit commander must report the location of the discovery to the Cultural Resources Office upon completion of the mission.
2. For all ground-disturbing activities (e.g., construction, etc.), cease ground-disturbing activity when possible cultural materials and features are observed or encountered and immediately notify the Cultural Resources Office of the discovery
3. Secure the discovery by establishing a 50-meter (164-foot) buffer around the location.
4. Cultural Resources Office personnel will visit the location of the discovery within 24 hours of the find and determine what legal mandates are applicable and whether mitigation and consultations are required.
5. Activity may not resume in area of discovery until cleared by the Cultural Resources Office.

Inadvertent Discovery of Human Remains or Funerary Objects

The following steps are to be taken if an unanticipated human burial or associated funerary object is found during an undertaking:

1. Ensure that activities have ceased at the discovery site and that the site has been secured from further adverse effects.
2. Notify the Cultural Resources Office immediately of the discovery. This notification should be by telephone, to be followed by written notification.
3. Secure the discovery by establishing a 50-meter (164-foot) buffer around the location.
4. Cultural Resources Office personnel will visit the location of the discovery within 3 working days of the find and determine what legal mandates are applicable, and whether mitigation and consultations are required.
5. Activity may not resume in area of discovery until cleared by the Cultural Resources Office.

6. LIST OF PREPARERS AND CONTRIBUTORS

| Name/Title | Project Role | Subject Area | Experience |
|---|----------------------------|-------------------------|--|
| Brad Boykin Environmental Scientist M.B.T. Biotechnology B.S. Biomedical Science | Project Manager, Author | Multiple | 8 years biotechnology and chemistry |
| Alysia Baumann NEPA Planner/Specialist B.S. Chemical Engineering, 2002 | Author | Air Quality | 8 years environmental science |
| Jeri Brecken Environmental Scientist M.S. Biology B.S. Forest Resources and Conservation | Author | Water Quality, Soils | 22 years environmental science |
| Rick Combs Environmental Scientist M.S. Biology B.S. Biology B.S. Business Administration | Author | Biological Resources | 10 years environmental science |
| Jason Koralewski Archaeologist M. Liberal Studies, Archaeology M.A. Anthropology B.A. Anthropology | Author | Cultural Resources | 18 years environmental science |
| Mike Nation Environmental Scientist B.S. Environmental Science/Policy, Minor in Geography A.A. General Science | GIS Analyst | | 11 years environmental consultant, interagency coordination, GIS Arc View applications |

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APPENDIX A
PUBLIC OUTREACH

PUBLIC OUTREACH

PUBLIC NOTIFICATION

In compliance with the National Environmental Policy Act (NEPA), Eglin Air Force Base (AFB) announces the availability of the *Draft-Final Environmental Assessment (EA) for Eglin Air Force Base Cantonment Areas*, and Draft-Final Finding of No Significant Impact (FONSI), for public review.

The EA analyzes potential environmental impacts of anticipated future construction and demolition projects within the five major cantonment areas on Eglin AFB. This EA is not intended to serve as a comprehensive NEPA analysis for every development action anticipated, rather, it provides a fence-to-fence evaluation of environmental constraints within the five cantonment areas to facilitate quick and efficient processing of development actions.

Your comments on this Draft-Final Environmental Assessment (EA) are requested. Letters or other written or oral comments provided may be published in the Final EA. As required by law, comments will be addressed in the Final EA and made available to the public. Any personal information provided will be used only to identify your desire to make a statement during the public comment period or to fulfill requests for copies of the Final EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final EA. However, only the names and respective comments of respondent individuals will be disclosed. Personal home addresses and phone numbers will not be published in the Final EA.

Copies of the Draft-Final EA and Draft-Final FONSI may be reviewed online at www.eglin.af.mil/eglindocuments.asp from February 15 until March 1. Local libraries have Internet access, and librarians can assist in accessing this document. Comments must be received by TBD to be included in the Final EA.

For more information or to comment on these proposed actions, contact: Mike Spaits, Eglin AFB Public Affairs, 96 TW/PA, 101 West D Ave., Room 238, Eglin AFB, Florida 32542 or email: spaitsm@eglin.af.mil. Tel: (850) 882-2836.

Response to Comments for Draft-Final Environmental Assessment for Eglin Air Force Base Cantonment Areas, and Draft-Final Finding of No Significant Impact

A public notice was published in the *Northwest Florida Daily News* on Feb. 15, 2014 to disclose completion of the Draft EA, and Draft FONSI, selection of the preferred alternative, and request for comments during the 15-day pre-decisional comment period.

The 15-day comment period ended on Mar. 1, with the comments required to this office not later than Mar. 4, 2014. No comments were received during this period.

//Signed//

Mike Spaits

Public Information Specialist

APPENDIX B

COASTAL ZONE MANAGEMENT ACT CONSISTENCY DETERMINATION

FEDERAL AGENCY COASTAL ZONE MANAGEMENT ACT (CZMA) CONSISTENCY DETERMINATION

Introduction

This document provides the State of Florida with the U.S. Air Force's Consistency Determination under CZMA Section 307 and 15 C.F.R. Part 930 sub-part C. The information in this Consistency Determination is provided pursuant to 15 C.F.R. Section 930.39 and Section 307 of the Coastal Zone Management Act, 16 U.S.C. § 1456, as amended, and its implementing regulations at 15 C.F.R. Part 930.

This federal consistency determination addresses Alternatives 1 and 2 of the Cantonment Areas Environmental Assessment (EA) for Eglin Air Force Base (AFB), Florida (Figure 1).

Proposed Federal Agency Action:

Alternative 1 is defined as authorizing the developments anticipated and proposed in various documents for the five cantonment areas located on Eglin AFB, which include:

- Eglin Main Base
- Duke Field
- 7th Special Forces Group (Airborne) (7 SFG[A]) Cantonment
- Camp Rudder
- Site C-6 20th Space Control Squadron (20 SPCS) Area

Eglin Main

The overarching goals of the projects on Eglin Main are to preserve and maximize the efficiency of mission critical infrastructure and facilitate the continued development on Eglin AFB to meet the needs of all Eglin units. Generally speaking, there are numerous recommended facility construction and improvement projects, as well as transportation and parking improvements. Other goals include maintenance of proper encroachment buffers, such as those to the north and west of Camp Pinchot, and preservation of historic areas. Improved safety is also a goal, as in the proposed rerouting of access roads to the Munitions Storage Area to avoid conflicts.

Duke Field

Alternative 1 includes authorizing the implementation of projects for the Duke Field cantonment area. Changes may be made to maintain compatibility with potential impacts from the Joint Strike Fighter (JSF) operations proposed in the 2005 Base Realignment and Closure (BRAC). Also, the 919th Special Operations Wing (919 SOW) and 413th Flight Test Squadron (413 FTS) are currently undergoing a change in airframe, and the 919 SOW is anticipating significant mission growth in support of the 7 SFG(A). These changes will require construction of new facilities and demolition, as well as changes to the aircraft parking apron and other facilities and roads.

7 SFG(A) Cantonment

Alternative 1 includes authorizing the implementation of anticipated projects for the Army 7 SFG(A) Cantonment located west of Highway 85 on the Eglin Reservation. The Army Special

Operations Force is a growing mission, and the 7 SFG(A) anticipates continued personnel growth centered on the military intelligence and information dominance fields, allowing the group to be more self-sustaining. Anticipated 7 SFG(A) personnel growth totals up to 3,540 personnel in the coming years; however, a portion of that growth has yet to be approved. The 7 SFG(A) Cantonment proposes a number of construction development projects to enhance mission readiness, maintain security and low visibility of cantonment operations, implement sustainable design, and enhance the quality of life.

Camp Rudder

Alternative 1 further includes authorizing the implementation of anticipated projects for the U.S. Army 6th Ranger Training Battalion (6 RTB) cantonment area at Camp Rudder in the northwestern portion of the Eglin Reservation. Battalion headquarters, community facilities, and student and cadre barracks would be consolidated in the interior of the cantonment area, creating a walkable campus core for students and instructors. Industrial and operations facilities would be located along the perimeter of the campus core to maximize adjacencies with the Field 6 flightline and surrounding training areas. Many planned and programmed facilities and transportation improvements are also planned for Camp Rudder.

Site C-6 20 SPCS Area

Alternative 1 would authorize the implementation of expected projects for the 20 SPCS on Test Area C-6. Site C-6 is the home of the 20 SPCS, a geographically separated unit of the 21st Space Wing at Peterson AFB, Colorado. The primary mission of 20 SPCS is tracking man-made space objects using radar and other systems. Necessary facility modernization and internal space renovations, site improvements, and utility upgrades have been identified.

Notional Facilities Summary

To conduct a quantitative analysis that would still allow for the most flexibility in implementation and provide a fence-to-fence environmental impact analysis, it was necessary to develop notional footprints of facilities and infrastructure to be constructed or demolished. To do this, Area Development Plans and other documents were used. However, because varying levels of detail were available at each cantonment area, certain assumptions were made to provide a conservative footprint for analysis. A summary of the facilities and infrastructure to be implemented under Alternative 1 is provided in Table 1.

Table 1. Alternative 1 Proposed Facilities for Each Cantonment Area

| | Total Area Disturbed (acres) | Facilities Construction (square feet) | Parking/ Impervious (acres) | Roads/ Infrastructure (acres) | Demolition (square feet) |
|---------------------|-------------------------------------|--|------------------------------------|--------------------------------------|---------------------------------|
| Eglin Main | 292 | 825,525 | 102 | 29 | 116,119 |
| Duke Field | 162 | 409,368 | 62 | 18 | 20,468 |
| 7 SFG(A) Cantonment | 33 | 183,081 | 3 | 3 | 9,154 |
| Camp Rudder | 49 | 130,680 | 17 | 18 | 6,534 |
| C-6 20 SPCS | 3 | 8,067 | 1 | 0 | 403 |

7 SFG(A) = 7th Special Forces Group (Airborne); 20 SPCS = 20th Space Control Squadron

Alternative 2 is defined as authorizing the developments anticipated and proposed in various documents for the five cantonment areas located on Eglin AFB as discussed under Alternative 1 plus increasing the project footprints at all cantonment areas. A summary of the facilities and infrastructure to be implemented under Alternative 2 is provided in Table 2.

Table 2. Alternative 2: Alternative 1 plus a Twenty-Five Percent Footprint Increase for All Projects

| | Total Area Disturbed (acres) | Facilities Construction (square feet) | Parking/ Impervious (acres) | Roads/ Infrastructure (acres) | Demolition (square feet) |
|---------------------|-------------------------------------|--|------------------------------------|--------------------------------------|---------------------------------|
| Eglin Main | 365 | 1,031,906 | 128 | 36 | 145,149 |
| Duke Field | 203 | 511,710 | 78 | 23 | 25,585 |
| 7 SFG(A) Cantonment | 41 | 228,851 | 4 | 4 | 11,443 |
| Camp Rudder | 61 | 130,680 | 17 | 18 | 6,534 |
| C-6 20 SPCS | 4 | 10,084 | 1 | 0 | 504 |

7 SFG(A) = 7th Special Forces Group (Airborne); 20 SPCS = 20th Space Control Squadron

Federal Consistency Review

Statutes addressed as part of the Florida Coastal Zone Management Program consistency review and considered in the analysis of Alternatives 1 and 2 are discussed in Table 3.

Pursuant to 15 C.F.R. § 930.41, the Florida State Clearinghouse has 60 days from receipt of this document in which to concur with or object to this Consistency Determination, or to request an extension, in writing, under 15 C.F.R. § 930.41(b). Florida's concurrence will be presumed if Eglin AFB does not receive its response on the 60th day from receipt of this determination.

Table 3. Florida Coastal Management Program Consistency Review

| Statute | Consistency | Scope |
|--|--|---|
| Chapter 161 <i>Beach and Shore Preservation</i> | Alternatives 1 and 2 would not affect beach and shore management, specifically as it pertains to: <ul style="list-style-type: none"> • The Coastal Construction Permit Program. • The Coastal Construction Control Line (CCCL) Permit Program. • The Coastal Zone Protection Program. All activities would occur on federal property. | This statute provides policy for the regulation of construction, reconstruction, and other physical activities related to the beaches and shores of the state. Additionally, this statute requires the restoration and maintenance of critically eroding beaches. |
| Chapter 163, Part II <i>Growth Policy; County and Municipal Planning; Land Development Regulation</i> | Alternatives 1 and 2 would not affect local government comprehensive plans. | Requires local governments to prepare, adopt, and implement comprehensive plans that encourage the most appropriate use of land and natural resources in a manner consistent with the public interest. |
| Chapter 186 <i>State and Regional Planning</i> | An increase in electricity, potable water, and natural gas usage would be likely to occur, but usage would still be within | Details state-level planning efforts. Requires the development of special statewide plans governing water use. |

| Statute | Consistency | Scope |
|---|--|--|
| | <p>permitted limits and could be accommodated without adverse impact on the electrical or natural gas supply in northwest Florida.</p> <p>Existing wastewater treatment plants would not have difficulty accommodating the additional flow from cantonment areas.</p> <p>New utilities infrastructure would be likely to be required for some projects sites. However, construction on the existing cantonment areas would provide adequate existing infrastructure from which to branch off (refer to Section 3.8 of the EA).</p> <p>Alternatives 1 and 2 would not affect state plans for water use, land development or transportation.</p> | land development, and transportation. |
| Chapter 252 <i>Emergency Management</i> | <p>Alternatives 1 and 2 would not affect the state's vulnerability to natural disasters.</p> <p>Alternatives 1 and 2 would not affect emergency response and evacuation procedures.</p> | Provides for planning and implementation of the state's response to, efforts to recover from, and the mitigation of natural and manmade disasters. |
| Chapter 253 <i>State Lands</i> | Alternatives 1 and 2 would not negatively affect state lands. | Addresses the state's administration of public lands and property of this state and provides direction regarding the acquisition, disposal, and management of all state lands. |
| Chapter 258 <i>State Parks and Preserves</i> | Alternatives 1 and 2 would not negatively affect state parks, recreational areas and aquatic preserves. | Addresses administration and management of state parks and preserves. |
| Chapter 259 <i>Land Acquisition for Conservation or Recreation</i> | Alternatives 1 and 2 would not affect tourism and/or outdoor recreation. | Authorizes acquisition of environmentally endangered lands and outdoor recreation lands. |
| Chapter 260 <i>Florida Greenways and Trails Act</i> | Alternatives 1 and 2 would not affect the Greenways and Trails Program. | Established in order to conserve, develop, and use the natural resources of Florida for healthful and recreational purposes. |
| Chapter 267 <i>Historical Resources</i> | Any construction plans or other project activities for this area would take into account cultural, archaeological sites, and historic structures. The proponent would coordinate with 96 CEG/CEIEA Cultural Resources and would follow the applicable policies and procedures in the Eglin AFB <i>Integrated Cultural Resources Management Plan</i> , including subsequent planning and implementation of mitigations if required (refer to Section | Addresses management and preservation of the state's archaeological and historical resources. |

| Statute | Consistency | Scope |
|---|--|--|
| | <p>3.11 of the EA).</p> <p>Therefore, Alternatives 1 and 2 would be consistent with Florida's statutes and regulations regarding the state's archaeological and historical resources.</p> | |
| <p>Chapter 288 <i>Commercial Development and Capital Improvements</i></p> | <p>Alternatives 1 and 2 would occur on federal property and would not affect future business opportunities on state lands, or the promotion of tourism in the region.</p> | <p>Promotes and develops general business, trade, and tourism components of the state economy</p> |
| <p>Chapter 334 <i>Transportation Administration</i></p> | <p>Alternatives 1 and 2 would not affect transportation.</p> | <p>Addresses the state's policy concerning transportation administration.</p> |
| <p>Chapter 339 <i>Transportation Finance and Planning</i></p> | <p>Alternatives 1 and 2 would not affect the finance and planning needs of the state's transportation system.</p> | <p>Addresses the finance and planning needs of the state's transportation system.</p> |
| <p>Chapter 373 <i>Water Resources</i></p> | <p>The potential for indirect impacts on water resources (sediment transport by stormwater from the proposed sites to any nearby surface waters) would be minimized. The Air Force would adhere to permitting requirements, implementing a site-specific Stormwater Pollution Prevention Plan (refer to Section 3.9 of the EA).</p> <p>Therefore, Alternatives 1 and 2 would be consistent with Florida's statutes and regulations regarding the water resources of the state.</p> | <p>Addresses sustainable water management; the conservation of surface and ground waters for full beneficial use; the preservation of natural resources, fish, and wildlife; protecting public land; and promoting the health and general welfare of Floridians.</p> |
| <p>Chapter 375 <i>Outdoor Recreation and Conservation Lands</i></p> | <p>Alternatives 1 and 2 would not affect opportunities for recreation on state lands.</p> | <p>Develops comprehensive multipurpose outdoor recreation plan to document recreational supply and demand, describe current recreational opportunities, estimate need for additional recreational opportunities, and propose means to meet the identified needs.</p> |
| <p>Chapter 376 <i>Pollutant Discharge Prevention and Removal</i></p> | <p>Hazardous Materials Management – No adverse impacts related to hazardous materials are anticipated from implementation of Alternatives 1 and 2 (refer to Section 3.4 of the EA).</p> <p>Hazardous Waste Management – Construction/demolition of some buildings could result in the production of minor amounts of lead-based paint or asbestos wastes. Hazardous and nonhazardous waste would be generated as a result of construction/demolition activities. Management of hazardous</p> | <p>Regulates transfer, storage, and transportation of pollutants, and cleanup of pollutant discharges.</p> |

| Statute | Consistency | Scope |
|--|--|---|
| | <p>waste would be performed according to prescribed procedures already in place. Thus, no change to permits, hazardous waste generated status, or management procedures would be required and no adverse environmental impacts are anticipated (refer to Section 3.4 of the EA).</p> <p>Environmental Restoration Program Sites – Development on or near any Environmental Restoration Program sites on Eglin AFB would be coordinated with the Eglin Environmental Office, the U.S. Environmental Protection Agency, the Florida Department of Environmental Protection, and other relevant stakeholders, as required. No adverse impacts are anticipated from implementation of Alternatives 1 and 2 (refer to Section 3.4 of the EA).</p> <p>Therefore Alternatives 1 and 2 would be consistent with Florida’s statutes and regulations regarding the transfer, storage, transportation of pollutants, and cleanup of pollutant discharges.</p> | |
| <p>Chapter 377 <i>Energy Resources</i></p> | <p>Alternatives 1 and 2 would not affect energy resource production, including oil and gas, and/or the transportation of oil and gas.</p> | <p>Addresses regulation, planning, and development of oil and gas resources of the state.</p> |
| <p>Chapter 379 <i>Fish and Wildlife Conservation</i></p> | <p>There would be no significant impacts on biological resources. Construction could result in a loss of habitat at the cantonment areas. Land clearing and daily operations may have a localized effect on native terrestrial wildlife; however, these species would either move to another location or remain within the area and utilize remaining foliage for habitat. In addition, the proposed cantonment areas represent only a small percentage of the total land area that Eglin maintains. Protected species surveys would be conducted prior to construction (refer to Section 3.3 of the EA).</p> <p>Eglin’s Natural Resources Office has completed a “No Effect” letter with the U.S. Fish and Wildlife Service (USFWS) for threatened and endangered species. Projects will comply with avoidance and minimization measures listed for</p> | <p>Addresses the management and protection of the state of Florida’s wide diversity of fish and wildlife resources.</p> |

| Statute | Consistency | Scope |
|---|--|---|
| | <p>protected species (refer to Appendix C of the EA).</p> <p>Therefore Alternatives 1 and 2 would be consistent with the State's policies concerning the protection of wildlife.</p> | |
| <p>Chapter 380 <i>Land and Water Management</i></p> | <p>Alternatives 1 and 2 would occur on federally owned lands. Under Alternatives 1 and 2, development of state lands with regional (i.e. more than one county) impacts would not occur. No changes to coastal infrastructure such as capacity increases of existing coastal infrastructure, or use of state funds for infrastructure planning, designing or construction would occur.</p> | <p>Establishes land and water management policies to guide and coordinate local decisions relating to growth and development.</p> |
| <p>Chapter 381 <i>Public Health, General Provisions</i></p> | <p>Alternatives 1 and 2 would not affect the state's policy concerning the public health system.</p> | <p>Establishes public policy concerning the state's public health system.</p> |
| <p>Chapter 388 <i>Mosquito Control</i></p> | <p>Alternatives 1 and 2 would not affect mosquito control efforts.</p> | <p>Addresses mosquito control effort in the state.</p> |
| <p>Chapter 403 <i>Environmental Control</i></p> | <p>Although construction/demolition emissions would increase temporarily there would be no major impacts on air quality associated with Alternatives 1 and 2 (refer to Section 3.2 in the EA).</p> <p>The potential for indirect impacts on water resources (sediment transport by stormwater from the proposed sites to any nearby surface waters) would be minimized. The Air Force would adhere to permitting requirements, implementing a site-specific Stormwater Pollution Prevention Plan (refer to Section 3.9).</p> <p>Nonhazardous waste would be generated as a result of construction/demolition activities. Management of waste would be performed according to prescribed procedures already in place. Thus, no adverse environmental impacts are anticipated (refer to Section 3.4 of the EA).</p> <p>Therefore, Alternatives 1 and 2 would be consistent with the State's policies concerning water quality, air quality, pollution control, solid waste management, or other environmental control efforts.</p> | <p>Establishes public policy concerning environmental control in the state.</p> |
| <p>Chapter 582 <i>Soil and Water</i></p> | <p>Soil quality would be impacted (at least temporarily) during the land clearing, site</p> | <p>Provides for the control and prevention of soil erosion.</p> |

| Statute | Consistency | Scope |
|---------------------|--|--------------|
| <i>Conservation</i> | <p>preparation, and construction activities within the cantonment areas. Eglin AFB management policies and permitting requirements would implement erosion and sediment controls at construction sites to minimize impact on soil resources (refer to Section 3.10 of the EA).</p> <p>Therefore, Alternatives 1 and 2 would be consistent with the Florida’s statutes and regulations regarding soil and water conservation efforts.</p> | |

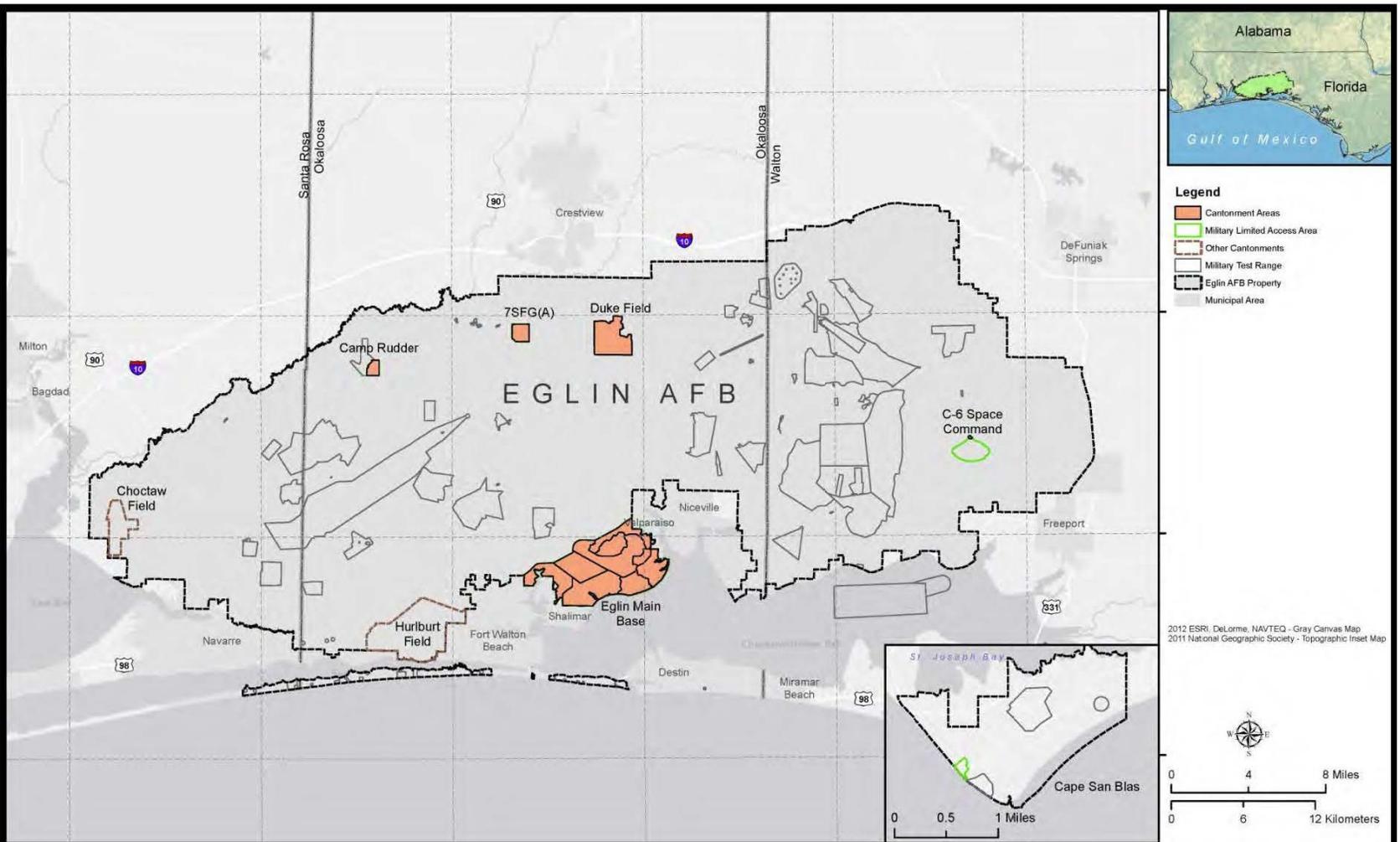


Figure 1. Eglin AFB Cantonment Areas

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APPENDIX C
AGENCY CORRESPONDENCE

AGENCY CORRESPONDENCE



DEPARTMENT OF
HEADQUARTERS 96TI
EGLIN AIR FORCI



U. S. Fish and Wildlife Service
1601 Balboa Avenue
Panama City, Florida 32405
(850) 769-0552 Fax (850) 763-2177

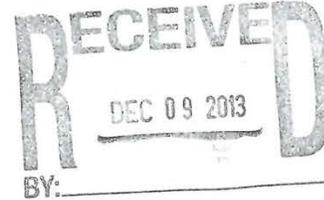
04EP
FWS Log No. 3000-2014-TA-0037

This project should have minimal impacts to fish and wildlife resources (16 U.S.C. 661 et seq.) and is not likely to adversely affect any species under the Endangered Species Act, as amended (16 U.S.C. 1531 et seq.).

Donald W. Phillips
Dr. Catherine T. Phillips, Deputy Project Leader Date

Mr. Thomas L. Chavers
Chief, Environmental Assets
96 CEG/CEIEA
501 De Leon Street, Suite 101
Eglin AFB FL 32542-5133

Dr. Donald Imm
U.S. Fish and Wildlife Service
1601 Balboa Avenue
Panama City FL 32405



Dear Dr. Imm:

This assessment evaluates potential impacts to protected species under Section 7 of the Endangered Species Act (ESA) associated with Alternatives 1 and 2 of the Cantonment Areas Environmental Assessment (EA) for Eglin Air Force Base (AFB), Florida (Figure 1). New construction would be evaluated on a case by case basis through the Air Force Form 813 process. If a proposed construction activity is beyond what has been considered within this assessment, a separate Section 7 consultation will be prepared.

Description of the Proposed Action:

Alternative 1 is defined as authorizing the developments anticipated and proposed in various documents for the five cantonment areas located on Eglin AFB, which include:

- Eglin Main Base (Figure 2)
- Duke Field (Figure 3)
- 7th Special Forces Group (Airborne) (7 SFG[A]) Cantonment (Figure 4)
- Camp Rudder (Figure 5)
- Site C-6 20th Space Control Squadron (20 SPCS) Area (Figure 6)

Eglin Main

The overarching goals of the projects on Eglin Main are to preserve and maximize the efficiency of mission critical infrastructure and facilitate the continued development on Eglin AFB to meet the needs of all Eglin units. Generally speaking, there are numerous recommended facility construction and improvement projects, as well as transportation and parking improvements. Other goals include maintenance of proper encroachment buffers, such as those to the north and west of Camp Pinchot, and preservation of historic areas. Improved safety is also a goal, as in the proposed rerouting of access roads to the Munitions Storage Area to avoid conflicts.

Duke Field

Alternative 1 includes authorizing the implementation of projects for the Duke Field cantonment area. Changes may be made to maintain compatibility with potential impacts from the Joint Strike Fighter (JSF) operations proposed in the 2005 Base Realignment and Closure (BRAC). Also, the 919th Special Operations Wing (919 SOW) and 413th Flight Test Squadron (413 FTS) are currently undergoing a change in airframe, and the 919 SOW is anticipating significant mission growth in support of the 7 SFG(A). These changes will require construction of new facilities and demolition, as well as changes to the aircraft parking apron and other facilities and roads.

7.SFG(A) Cantonment

Alternative 1 includes authorizing the implementation of anticipated projects for the Army 7 SFG(A) Cantonment. The Army Special Operations Force is a growing mission, and the 7 SFG(A) anticipates continued personnel growth centered on the military intelligence and information dominance fields, allowing the group to be more self-sustaining. Anticipated 7 SFG(A) personnel growth totals up to 3,540 personnel in the coming years; however, a portion of that growth has yet to be approved. The 7 SFG(A) Cantonment proposes a number of construction development projects to enhance mission readiness, maintain security and low visibility of cantonment operations, implement sustainable design, and enhance the quality of life.

Camp Rudder

Alternative 1 further includes authorizing the implementation of anticipated projects for the U.S. Army 6th Ranger Training Battalion (6 RTB) cantonment area at Camp Rudder. Battalion headquarters, community facilities, and student and cadre barracks would be consolidated in the interior of the cantonment area, creating a walkable campus core for students and instructors. Industrial and operations facilities would be located along the perimeter of the campus core to maximize adjacencies with the Field 6 flightline and surrounding training areas. Many planned and programmed facilities and transportation improvements are also planned for Camp Rudder.

Site C-6 20 SPCS Area

Alternative 1 would authorize the implementation of expected projects for the 20 SPCS on Test Area C-6. Site C-6 is the home of the 20 SPCS, a geographically separated unit of the 21st Space Wing at Peterson AFB, Colorado. The primary mission of 20 SPCS is tracking man-made space objects using radar and other systems. Necessary facility modernization and internal space renovations, site improvements, and utility upgrades have been identified.

Notional Facilities Summary

To conduct a quantitative analysis that would still allow for the most flexibility in implementation and provide a fence-to-fence environmental impact analysis, it was necessary to develop notional footprints of facilities and infrastructure to be constructed or demolished. To do this, Area Development Plans and other documents were used. However, because varying levels of detail were available at each cantonment area, certain assumptions were made to provide a conservative footprint for analysis. A summary of

the facilities and infrastructure to be implemented under Alternative 1 is provided in Table 1.

Table 1. Alternative 1 Proposed Facilities for Each Cantonment Area

| | Total Area Disturbed (acres) | Facilities Construction (square feet) | Parking/ Impervious (acres) | Roads/ Infrastructure (acres) | Demolition (square feet) |
|---------------------|-------------------------------------|--|------------------------------------|--------------------------------------|---------------------------------|
| Eglin Main | 292 | 825,525 | 102 | 29 | 116,119 |
| Duke Field | 162 | 409,368 | 62 | 18 | 20,468 |
| 7 SFG(A) Cantonment | 33 | 183,081 | 3 | 3 | 9,154 |
| Camp Rudder | 49 | 130,680 | 17 | 18 | 6,534 |
| C-6 20 SPCS | 3 | 8,067 | 1 | 0 | 403 |

7 SFG(A) = 7th Special Forces Group (Airborne); 20 SPCS = 20th Space Control Squadron

Alternative 2 is defined as authorizing the developments anticipated and proposed in various documents for the five cantonment areas located on Eglin AFB as discussed under Alternative 1 plus increasing the project footprints within the cantonment area boundaries. A summary of the facilities and infrastructure to be implemented under Alternative 2 is provided in Table 2.

Table 2. Alternative 2: Alternative 1 plus a twenty-five percent footprint increase for all projects

| | Total Area Disturbed (acres) | Facilities Construction (square feet) | Parking/ Impervious (acres) | Roads/ Infrastructure (acres) | Demolition (square feet) |
|---------------------|-------------------------------------|--|------------------------------------|--------------------------------------|---------------------------------|
| Eglin Main | 365 | 1,031,906 | 128 | 36 | 145,149 |
| Duke Field | 203 | 511,710 | 78 | 23 | 25,585 |
| 7 SFG(A) Cantonment | 41 | 228,851 | 4 | 4 | 11,443 |
| Camp Rudder | 61 | 130,680 | 17 | 18 | 6,534 |
| C-6 20 SPCS | 4 | 10,084 | 1 | 0 | 504 |

7 SFG(A) = 7th Special Forces Group (Airborne); 20 SPCS = 20th Space Control Squadron

Determination of Impacts:**Red-cockaded Woodpecker**

Construction activities may temporarily disturb RCWs foraging near cantonment area boundaries (Figures 3-5). Suitable habitat appears to outweigh any negative influences associated with noise due to construction. The RCW population continues to grow at Eglin, including areas in close proximity to test areas. RCWs on Eglin appear to have adapted to noise associated with the military mission, including supersonic booms. Overall noise during construction activities within cantonment sites would be less of a disturbance on foraging RCWs compared with mission activities. Eglin Natural Resources (NR) has determined that Alternatives 1 and 2 of the Cantonment Areas EA would have **no effect** on the red-cockaded woodpecker. Construction activities requiring the removal of inactive RCW trees would be evaluated by Eglin Natural Resources and may require separate consultation. Furthermore, the U.S. Fish and Wildlife Service (USFWS) concurred with the Eglin NRS that any future developments impacting inactive RCW trees on Eglin Main Base were not likely to adversely affect the RCW (USFWS, 1997).

Okaloosa Darter

Excess sedimentation is the major threat to stream habitats of the federally threatened Okaloosa darter; therefore, minimization of erosion in Okaloosa darter watersheds is important. To minimize impacts, best management practices (BMPs) such as the use of hay bales and silt fences would be in place prior to, and throughout construction to minimize erosion into the stream and lessen any potential downstream impact. Construction actions would occur at a minimum of 300 feet outside of the darter stream (Figure 2). Eglin NR would coordinate with personnel to ensure erosion control measures are followed. Eglin NR has determined that Alternatives 1 and 2 of the Cantonment Areas EA would have **no effect** on the Okaloosa darter. Proposed construction activities within the 300 foot buffer of the darter stream would be evaluated by Eglin Natural Resources and may require separate consultation.

Reticulated Flatwoods Salamander

There are no known reticulated flatwoods salamander ponds within the cantonment area boundaries. Potential ponds occur outside the border of the 7 SFG(A) cantonment area (Figure 4). Impacts to the reticulated flatwoods salamander from equipment or personnel is unlikely to occur, as construction activities would remain within cantonment area boundaries which are outside the 1500 foot buffer from the potential pond. Eglin NR has determined that Alternatives 1 and 2 of the Cantonment Areas EA would have **no effect** on the reticulated flatwoods salamander.

Eastern Indigo Snake

The potential impact to the eastern indigo snake would be from direct physical impacts associated with construction equipment. Incidental contact with personnel and equipment could result in trampling of an individual snake. However, this occurrence is considered highly unlikely, as the snake would most likely move away from the area if it sensed a general disturbance in its vicinity. Should an indigo snake be sighted during construction activities, personnel would cease activities until the snake has moved away from the area before resuming work. Eglin NR has determined that Alternatives 1 and 2 of the Cantonment Areas EA would have **no effect** on the eastern indigo snake if these measures are followed:

- Construction personnel would be provided a description of the eastern indigo snake and its protection under Federal Law. Indigo snake signs would be provided by Eglin NR and posted at the construction site. Personnel would be given instructions not to harass injure, harm, or kill this species.
- Should an indigo snake be sighted, construction personnel would be directed to cease any activities and allow the eastern indigo snake sufficient time to move away from the site on its own before resuming such activities. Personnel would contact Eglin NR immediately to report the sighting of the snake.

Other Species Considered:***Bald Eagle***

Construction activities would not occur within 330 feet of the known bald eagle nest site on Eglin Main Base (Figure 2). Eglin NR has determined that Alternatives 1 and 2 of the Cantonment Areas EA would have no impact on the bald eagle.

Florida Black Bear

Any potential impact to Florida black bear would be from incidental contact with the animal, or disruption of its behavioral habits. In the unlikely event that construction personnel were to come into contact with a black bear, all activities would cease until the bear moved away from the area. Personnel should contact Eglin NR if a black bear is located in the construction area. Eglin NR has determined that Alternatives 1 and 2 of the Cantonment Areas EA would have no impact on the Florida black bear.

Gopher Tortoise

The potential to impact the gopher tortoise is from direct physical impacts associated with construction activities. Incidental contact with personnel and equipment could result in trampling or crushing of individuals or their burrow. Eglin NR would conduct a gopher tortoise survey prior to construction activities. If a gopher tortoise burrow is identified within the proposed path of construction, Eglin NR personnel would investigate the burrow and relocate any gopher tortoise or commensals that may be occupying the burrow. All gopher tortoise or commensal relocation would be performed

in accordance with the Florida Fish and Wildlife Conservation Commission (FWC) protocols. In the unlikely event that construction personnel were to come into contact with a gopher tortoise, all activities would cease until the tortoise moved away from the area. Eglin NR has determined that Alternatives 1 and 2 of the Cantonment Areas EA would have minimal to no impact on the gopher tortoise if these measures are followed:

- Prior to project initiation a gopher tortoise survey is required. Eglin NR would be contacted one month prior to any ground disturbing activity.
- If a gopher tortoise burrow cannot be avoided, then the tortoise would be relocated in accordance with the FWC protocols.
- Should a gopher tortoise burrow be identified within the proposed path of construction by construction personnel, work would cease until Eglin NR has investigated the burrow and relocated any gopher tortoise or commensals to a suitable location.

Conclusion:

Eglin NR has determined that Alternatives 1 and 2 of the Cantonment Areas EA would have **no effect** on the red-cockaded woodpecker, Okaloosa darter, reticulated flatwoods salamander and eastern indigo snake. Eglin AFB would notify the USFWS if any actions are modified or additional information on listed species becomes available, as a reinitiation of consultation may be required. If an impact to a listed species occurs, all operations would cease and Eglin would notify the USFWS. If you have any questions regarding this letter or the proposed activities, please contact Mr. Jeremy Preston (850) 883-1153 or myself at (850) 882-8391.

Sincerely,



THOMAS L. CHAVERS
Chief, Environmental Assets

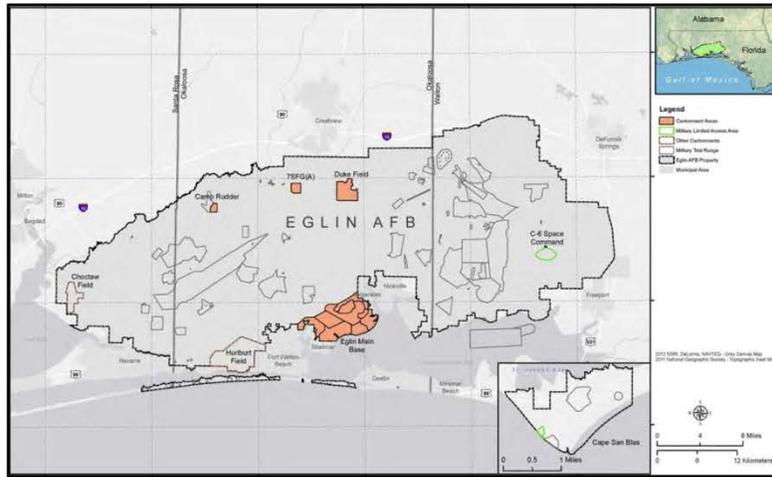


Figure 1. Eglin AFB Cantonment Areas

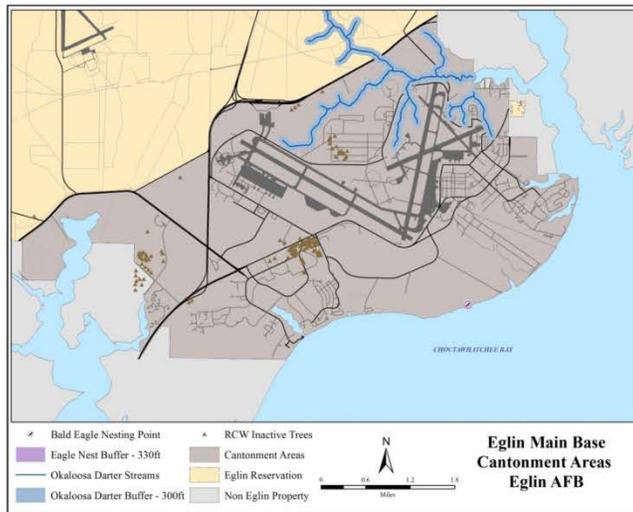


Figure 2. Eglin Main Base on Eglin AFB

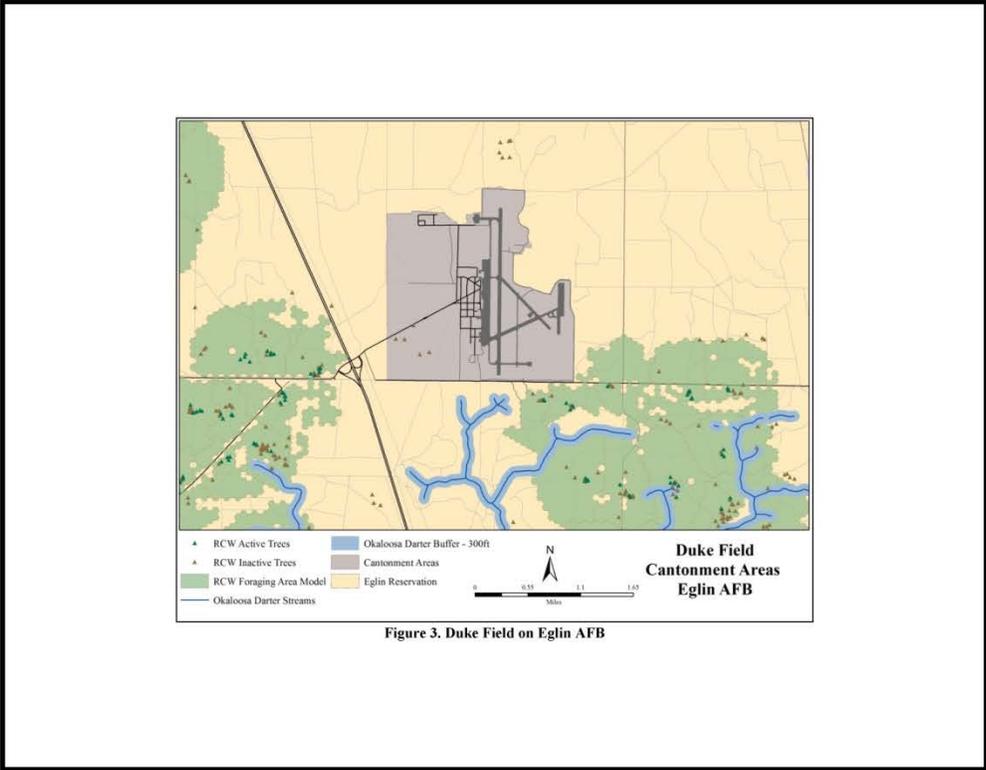


Figure 3. Duke Field on Eglin AFB

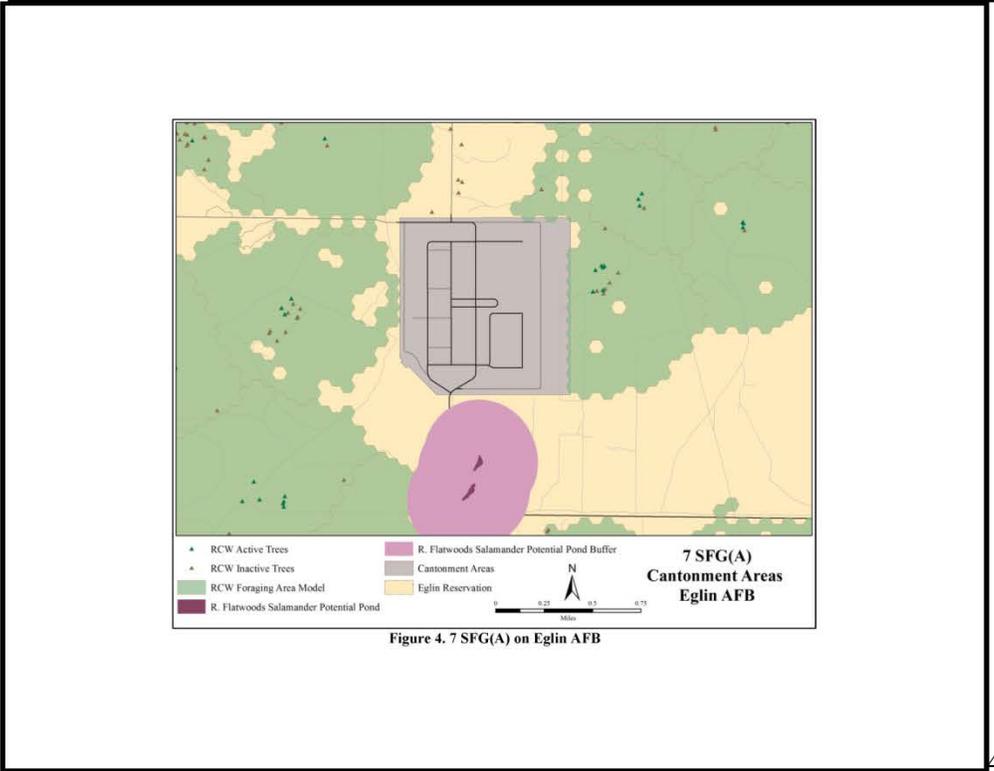


Figure 4. 7 SFG(A) on Eglin AFB

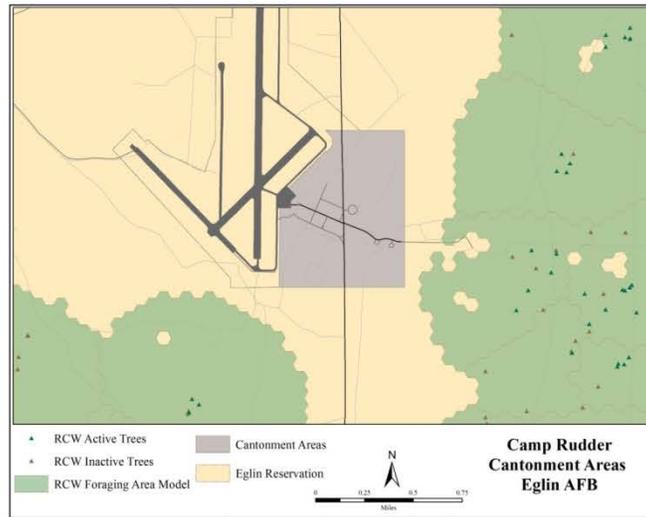


Figure 5. Camp Rudder on Eglin AFB

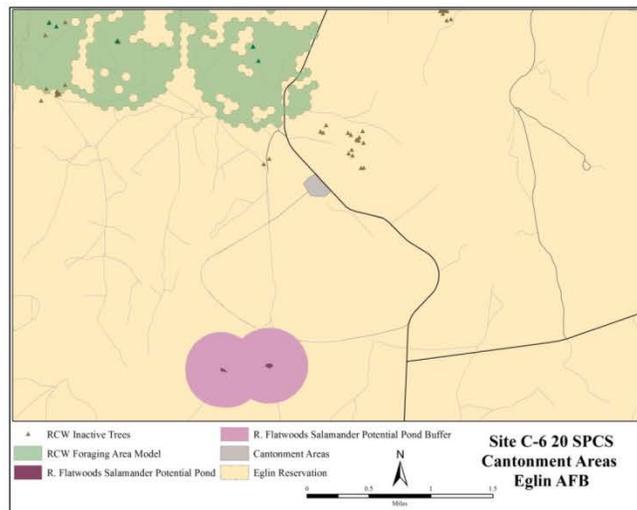


Figure 6. Site C-6 20 SPCS Area on Eglin AFB

References

USFWS, 1997. Concurrence signature on Section 7 Consultation letter regarding development on Eglin Main Base and inactive RCW trees. June 10, 1997.



**FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION**

MARJORY STONEMAN DOUGLAS BUILDING
3900 COMMONWEALTH BOULEVARD
TALLAHASSEE, FLORIDA 32399-3000

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANERA
LT. GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

February 18, 2014

Mr. Brad S. Boykin, Project Manager
Leidos
1140 North Eglin Parkway
Shalimar, FL 32579

RE: Department of the Air Force – Draft-Final Environmental Assessment (EA), Eglin
Air Force Base Cantonment Areas – Okaloosa and Walton Counties, Florida.
SAI # FL201401026797C

Dear Mr. Boykin:

The Florida State Clearinghouse has coordinated a review of the referenced Draft EA under the following authorities: Presidential Executive Order 12372; § 403.061(42), *Florida Statutes*; the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321-4347, as amended.

Florida Fish and Wildlife Conservation Commission (FWC) staff reports that the Draft EA indicates Eglin AFB compliance with the state gopher tortoise permitting and relocation requirements. The Air Force would further minimize the potential negative impacts to listed species by advising all workers to halt activities if an indigo snake or gopher tortoise is sighted and allow it time to move to safety. FWC staff advises that the Management Actions described in Section 5.2.2 of the Draft EA will provide adequate buffers, water quality protections and habitat considerations necessary to protect the biological resources that have been identified onsite. The FWC appreciates its positive working relationship with Eglin AFB Natural Resources Section staff and agrees with their procedures to comply with applicable guidelines and protect the state- and federally listed species identified in the Draft EA. Please refer to the enclosed FWC letter for additional details and contact Ms. Jane Chabre at (850) 410-5367 or FWCConservationPlanningServices@MyFWC.com if you require further assistance.

The Florida Department of Environmental Protection's (DEP) Northwest District Office staff in Pensacola notes that, although no significant direct impacts to surface waters or wetlands are proposed in the Draft EA, certain development projects may require the issuance of environmental resource permits for stormwater treatment and control, under Chapter 62-330, *Florida Administrative Code*. If a permit is required, staff advises the applicant to contact the DEP prior to submitting an application. For further information and assistance, please contact Mr. Scott Casey at (850) 595-0574 or Scott.Casey@dep.state.fl.us.

www.dep.state.fl.us

Mr. Brad S. Boykin
Page 2 of 2
February 18, 2014

Based on the information contained in the Draft EA and the enclosed state agency comments, the state has determined that, at this stage, the proposed activities are consistent with the Florida Coastal Management Program (FCMP). To ensure the projects' continued consistency with the FCMP, the concerns identified by our reviewing agencies must be addressed prior to project implementation. The state's continued concurrence will be based on the activities' compliance with FCMP authorities, including federal and state monitoring of the activities to ensure their continued conformance, and the adequate resolution of issues identified during this and subsequent regulatory reviews. The state's final concurrence of the projects' consistency with the FCMP will be determined during the environmental permitting process, in accordance with Section 373.428, *Florida Statutes*, if applicable.

Thank you for the opportunity to review the draft document. Should you have any questions regarding this letter, please contact Ms. Jillaine M. Owens at (850) 245-2187.

Yours sincerely,



Lauren P. Milligan, Coordinator
Florida State Clearinghouse
Office of Intergovernmental Programs

LPM/jmo
Enclosures

cc: Scott Sanders, FWC
Brandy Smith, DEP, Northwest District

www.dep.state.fl.us



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| Project Information | |
|---|--|
| Project: | FL201401026797C |
| Comments Due: | 02/07/2014 |
| Letter Due: | 02/25/2014 |
| Description: | DEPARTMENT OF THE AIR FORCE - DRAFT ENVIRONMENTAL ASSESSMENT, EGLIN AIR FORCE BASE CANTONMENT AREAS - OKALOOSA AND WALTON COUNTIES, FLORIDA. |
| Keywords: | USAF - DEA, EGLIN AFB CANTONMENT AREAS - OKALOOSA AND WALTON CO. |
| CFDA #: | 12.200 |
| Agency Comments: | |
| ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION | |
| DEP Northwest District Office staff in Pensacola notes that, although no significant direct impacts to surface waters or wetlands are proposed in the Draft EA, certain development projects may require the issuance of environmental resource permits for stormwater treatment and control, under Chapter 62-330, Florida Administrative Code. If a permit is required, staff advises the applicant to contact the DEP prior to submitting an application. For further information and assistance, please contact Mr. Scott Casey at (850) 595-0574 or Scott.Casey@dep.state.fl.us . | |
| STATE - FLORIDA DEPARTMENT OF STATE | |
| Based on the information provided in the Draft EA, the DOS agrees with the plans outlined by Eglin AFB regarding treatment of cultural resources, concerning both National Register of Historic Places-listed resources and fortuitous finds. | |
| NORTHWEST FLORIDA WMD - NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT | |
| The NWFWM has no comments on the Eglin AFB proposal. Any subsequent Environmental Resource Permitting associated with the proposed activities would be undertaken by the FDEP. | |
| OKALOOSA - OKALOOSA COUNTY | |
| FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION | |
| The FWC reports that the Draft EA indicates Eglin AFB compliance with state gopher tortoise permitting and relocation requirements. The Air Force would further minimize the potential negative impacts to listed species by advising all workers to halt activities if an indigo snake or gopher tortoise is sighted and allow it time to move to safety. FWC staff believes that the Management Actions described in Section 5.2.2 of the Draft EA will provide adequate buffers, water quality protections and habitat considerations necessary to protect the biological resources that have been identified onsite. FWC appreciates its positive working relationship with Eglin Natural Resources Section staff and agrees with their procedures to comply with applicable guidelines and protect the state- and federally listed species identified in the Draft EA. | |
| TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION | |
| Released Without Comment | |
| WEST FLORIDA RPC - WEST FLORIDA REGIONAL PLANNING COUNCIL | |
| No Comments | |
| WALTON - | |

For more information or to submit comments, please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD, M.S. 47
 TALLAHASSEE, FLORIDA 32399-3000
 TELEPHONE: (850) 245-2161



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February 5, 2014

Ms. Lauren P. Milligan
Environmental Manager
Agency Contact and Coordinator
Florida Department of Environmental Protection
3900 Commonwealth Boulevard, MS 47
Tallahassee, FL 32399-3000
Lauren.Milligan@dep.state.fl.us

Re: SAI #FL201401026797C, Department of the Air Force, Draft Environmental Assessment Cantonment Areas, Eglin Air Force Base, Okaloosa and Walton Counties, Florida

Dear Ms. Milligan:

Florida Fish and Wildlife Conservation Commission (FWC) staff has reviewed the Draft Environmental Assessment (DEA) for the above-referenced project. We provide the following comments and recommendations for your consideration in accordance with Chapter 379, Florida Statutes, and the Coastal Zone Management Act/Florida's Coastal Management Program.

Eglin Air Force Base (AFB) proposes to provide a fence-to-fence evaluation of environmental constraints within the five cantonment areas (Eglin Main, Duke Field, 7 SFG (A) Cantonment, Camp Rudder, Site C-6 20 SPCS Area) to facilitate quick and efficient processing of development actions. The DEA provides an assessment of impacts associated with proposed development of new facilities, demolition, and renovation of existing facilities in Eglin's cantonment areas. Section 3.3 of the DEA provides information on the locations and potential impacts to the following species: red-cockaded woodpecker (*Picoides borealis*, Federally Endangered), reticulated flatwoods salamander (*Ambystoma bishopi*, Federally Endangered), eastern indigo snake (*Drymarchon corais couperi*, Federally Threatened), Florida pine snake (*Pituophis melanoleucus*, State Species of Special Concern), and the gopher tortoise (*Gopherus polyphemus*, State Threatened). The Florida black bear (*Ursus americanus floridanus*) is also known to occur within the area.

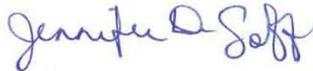
The DEA indicates that Eglin AFB will comply with state gopher tortoise permitting requirements and resurvey the area 30 days prior to commencement of clearing. Further, all gopher tortoises will be relocated to other portions of the Eglin Reservation by Eglin Natural Resources Section staff. The Air Force would further minimize the potential for negative impacts to listed species by advising all workers to halt activities if an indigo snake or gopher tortoise is sighted and allow it time to move to safety.

We believe that the Management Actions described in Section 5.2.2 of the DEA will provide adequate buffers, water quality protections, and habitat considerations necessary to protect the biological resources that have been identified onsite. We appreciate our positive working relationship with Eglin Natural Resources Section staff and agree with their procedures to comply with applicable guidelines and protect the state- and federally listed species that have been identified in the DEA.

Laureh P. Milligan
Page 2
February 5, 2014

We find the DEA consistent with authorities under Chapter 379, F.S. and the Coastal Zone Management Act/ Florida Coastal Management Program. If you need any further assistance, please do not hesitate to contact Jane Chabre either by phone at (850) 410-5367 or at FWCConservationPlanningServices@MyFWC.com. If you have specific technical questions regarding the content of this letter, please contact Theodore Hoehn at (850) 488-8792 or by email at ted.hoehn@myfwc.com.

Sincerely,



Jennifer D. Goff
Land Use Planning Program Administrator
Office of Conservation Planning Services

jdg/th
ENV 1-2-2
Eglin AFB Cantonment Areas EA_18562_020514

cc: Mr. Brad Boykin, Leidos, boykinb@leidos.com



FLORIDA DEPARTMENT OF STATE

RICK SCOTT
Governor

KEN DETZNER
Secretary of State

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FEB 10 2014

DEP Office of
Intergov't Programs

January 29, 2014

Florida State Clearinghouse
Agency Contact and Coordinator (SCH)
3900 Commonwealth Boulevard MS-47
Tallahassee, FL 32399-3000

RE: DHR Project File Number: 2014-0064/ Received by SHPO: January 7, 2014
*Department of the Air Force – Draft Environmental Assessment, Eglin Air Force Base Cantonment Areas
Okaloosa and Walton Counties, Florida*

Dear Agency Reviewer:

Our office reviewed the referenced project for possible impact to historic properties listed, or eligible for listing, in the *National Register of Historic Places*, or otherwise of historical, architectural or archaeological value. The review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended and *36 CFR Part 800: Protection of Historic Properties*.

Based on the information contained within the draft Environmental Assessment, our office agrees with the plans outlined by Eglin Air Force Base (AFB) regarding the treatment of cultural resources, concerning both listed resources and fortuitous finds. We concur with Eglin AFB and the FONSI determination.

If you have any questions concerning our comments, please contact Desiree Estabrook, Historic Sites Specialist, by email at Desiree.Estabrook@dos.myflorida.com, or at 850-245-6333.

Sincerely

Robert F. Beridus, Director
Division of Historical Resources
and State Historic Preservation Officer



DIVISION OF HISTORICAL RESOURCES
R. A. Gray Building • 500 South Bronough Street • Tallahassee, Florida 32399-0250
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APPENDIX D
CULTURAL RESOURCES

CULTURAL RESOURCES

Brief History of Eglin Air Force Base (AFB)

This area of Florida was first occupied by Paleo-Indian populations approximately 12,000 years before present (bp) (Milanich, 1994). These early populations were geographically tethered to inland watering holes and along coastal areas with access to water. They subsisted primarily on now-extinct species of Pleistocene megafauna such as bison and mammoth. As the climate grew warmer and more arid during the hypsithermal period (10,000–5,000 bp), humans began exploiting a wider variety of plants and animals found within the local ecology. New technologies to exploit these resources were also developed during this time period, and these tools are often recovered from archaeological sites in the region (Anderson and Sassaman, 2004a).

During this time, also known as the Archaic period, mound complexes in the region, such as Poverty Point in Louisiana, developed as populations in the southeastern United States increased in ceremonial and cultural complexity. The Archaic period and subsequent time periods are also witness to incipient agriculture, mound burials, and increasingly permanent settlements (Anderson and Sassaman, 2004b). The terminus of these trends during the Woodland period (2,700–1,000 bp) led to the development of distinct prehistoric Native American cultures. These cultures are more visible and definable in the archaeological record, due to better preservation of more recent material remains and more stylistically identifiable objects such as pottery (Jeffries, 2004).

Early Spanish *entradas* (entries) by individuals such as Juan Ponce DeLeon in 1513 and 1521, and later by Hernando DeSoto (who is believed to have passed near Alabama and Tallahassee, Florida, to the north and east of Eglin Range, respectively), brought drastic changes to the region. These changes affected even populations untouched by direct colonization in terms of technology, culture, mass depopulation, and upheaval as a result of introducing foreign pathogens such as smallpox, measles, and influenza (Saunt, 2004). Estimates of native populations in the southeastern United States range from 1,000,000 to 4,000,000 individuals just prior to European arrival. By 1685, population estimates within the same region had fallen to 200,000 individuals (Saunt, 2004).

French and British populations also moved through and laid claim to portions of the region (Saunt, 2004). European involvement in Florida ended in 1819 when, by treaty, the United States received rights to the remaining Spanish claims in the region (Dowd, 2004). In 1845, Florida became the twenty-seventh state of the Union. For the next 50 years, plantation agriculture, citrus, cattle, and the naval stores industries, along with supporting infrastructure, were the primary occupations for most Floridians.

Eglin AFB was originally established as an Army bombing and gunnery base in 1935. In 1940, as World War II approached, Congress ceded the surrounding Choctawhatchee National Forest from the Forest Service to the War Department (U.S. Air Force, 2006). During World War II, Eglin would gain notability as the location where Doolittle's raid was planned, where captured

German V-1 rockets were reverse-engineered by American scientists into the JB-2 buzz bomb weapon, and where “Operation Crossbow,” the reconstruction of Germany’s “Vengeance” (or “V” weapon) rocket launch facilities took place, as well as testing of methods that would be used to destroy those launch sites. Because of this early foundation, Eglin Field would become an important armaments testing facility for the U.S. military after the war.

Traditional Cultural Properties

Traditional cultural properties are historic sites eligible for the National Register of Historic Places (National Register) under one or more of the criteria in 36 *Code of Federal Regulations* (CFR) 60.4 (Sebastian, 1995). According to the National Park Service *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, a TCP is defined as “...one that is eligible for inclusion in the National Register of Historic Places because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community” (Parker and King, 1998). Note that TCPs also overlap the definition of *historic properties* (36 CFR 800.16(l)(1)) where they are “...properties of traditional religious and cultural importance to an Indian Tribe ...” and that meet the National Register criteria. No specific studies have been conducted to date at Eglin AFB to identify TCPs, although cultural resource surveys to date are considered adequate to interpret that a low probability for TCPs exist within the project Area of Potential Effect (APE).

Resources Located Within the ADP Area of Potential Effects

Historic Structures

| Historic Structures | | | | | |
|----------------------------|-------------------|-----------------------|--------------------|---------------------|--|
| Building # | District # | Structure Name | NRHP Status | ADP District | Description |
| 8640 | | 8WL01330 | Eligible | C-6 | 8640 is in excellent condition with no damage noted. |
| 6100 | | | Review | Camp Rudder | |
| 3104 | | NONE | Not Assessed | Duke Field | Original Building has been demolished |
| 3299 | | NONE | Not Assessed | Duke Field | No condition description available |
| 3021 | | 8OK02299 | Review | Duke Field | |
| 3022 | | 8OK02300 | Review | Duke Field | |
| 3023 | | 8OK02301 | Review | Duke Field | |
| 3026 | | 8OK02302 | Review | Duke Field | |
| 3051 | | 8OK02314 | Review | Duke Field | |
| 3073 | | 8OK02318 | Review | Duke Field | |
| 8 | | 8OK01311 | Eligible | Eglin Main Base | No structural damage and minor repairs needed. |
| 10 | | 8OK01312 | Eligible | Eglin Main Base | Minor damages noted with cosmetic improvements |
| 33 | | 8OK01303 | Eligible | Eglin Main Base | No serious damage. Roof leaks and cracking stucco noted. |

| Historic Structures | | | | | |
|---------------------|------------|----------------|-------------|-----------------|--|
| Building # | District # | Structure Name | NRHP Status | ADP District | Description |
| 34 | | 8OK01304 | Eligible | Eglin Main Base | Structurally sound but many other problems exist. |
| 35 | | 8OK01305 | Eligible | Eglin Main Base | Minimally modified with minor damage |
| 36 | | 8OK01306 | Eligible | Eglin Main Base | Undergoing interior renovation |
| 37 | | 8OK01307 | Eligible | Eglin Main Base | Some termite and structure damage. |
| 40 | | 8OK01309 | Eligible | Eglin Main Base | Interior has been renovated. |
| 44 | | 8OK01310 | Eligible | Eglin Main Base | Roof leaks and concrete cracked in the floor and walls |
| 68 | | 8OK01334 | Eligible | Eglin Main Base | Hanger has some alterations from the original design. |
| 73 | | 8OK01844 | Eligible | Eglin Main Base | No condition description in the report |
| 110 | | 8OK01332 | Eligible | Eglin Main Base | Basic structure design remains unchanged. |
| 123 | | 8OK01502 | Eligible | Eglin Main Base | No condition description available. |
| 130 | | 8OK01484 | Eligible | Eglin Main Base | Some repairs are required. |
| 408 | 8OK02227 | 8OK01314 | Eligible | Eglin Main Base | Building is maintained |
| 410 | 8OK02227 | 8OK01326 | Eligible | Eglin Main Base | No structure damage noted. Building moderately altered |
| 412 | 8OK02227 | 8OK01488 | Eligible | Eglin Main Base | No condition description available in the report. |
| 413 | 8OK02227 | 8OK01489 | Eligible | Eglin Main Base | Minor alterations |
| 414 | 8OK02227 | 8OK01490 | Eligible | Eglin Main Base | Minor alterations |
| 417 | 8OK02227 | 8OK01850 | Eligible | Eglin Main Base | No condition description is given in the report. |
| 420 | 8OK02227 | 8OK01852 | Eligible | Eglin Main Base | No condition description is given in the report. |
| 423 | 8OK02227 | 8OK01853 | Eligible | Eglin Main Base | No condition description is given in the report. |
| 886 | 8OK02760 | 8OK02763 | Eligible | Eglin Main Base | Some wood rot with cracks in the foundation noted. |
| 887 | 8OK02760 | 8OK02764 | Eligible | Eglin Main Base | Some wood rot, cracks, and leaking roof |
| 888 | 8OK02760 | 8OK02765 | Eligible | Eglin Main Base | Some wood rot and window AC unit causing damage. |
| 898 | 8OK02760 | 8OK02766 | Eligible | Eglin Main Base | No major problems or structural defects noted. |
| 954 | | 8OK02084 | Eligible | Eglin Main Base | No condition description available in the report. |
| 1285 | 8OK02682 | 8OK02679 | Eligible | Eglin Main Base | Integrity maintained |
| 1286 | 8OK02682 | 8OK02680 | Eligible | Eglin Main Base | Retains integrity |
| 1287 | 8OK02682 | 8OK02681 | Eligible | Eglin Main Base | Integrity maintained |
| 1315 | 8OK02682 | 8OK01382 | Eligible | Eglin Main Base | Altered |

| Historic Structures | | | | | |
|---------------------|------------|----------------|-------------------|-----------------|---|
| Building # | District # | Structure Name | NRHP Status | ADP District | Description |
| 1318 | 8OK02682 | 8OK01383 | Eligible | Eglin Main Base | No condition description available. |
| 1321 | 8OK02682 | 8OK02674 | Eligible | Eglin Main Base | Not specified in the report |
| 1328 | 8OK02682 | 8OK01385 | Eligible | Eglin Main Base | Minor alterations |
| 1339 | 8OK02682 | 8OK02675 | Eligible | Eglin Main Base | Structure is unaltered |
| 1341 | 8OK02682 | 8OK02678 | Eligible | Eglin Main Base | The structure is essentially unaltered. |
| 1343 | 8OK02682 | 8OK01386 | Eligible | Eglin Main Base | Some alterations |
| 1344 | 8OK02682 | 8OK01387 | Eligible | Eglin Main Base | Some alterations |
| 1345 | 8OK02682 | 8OK01388 | Eligible | Eglin Main Base | Some alterations |
| 1351 | 8OK02682 | 8OK01389 | Eligible | Eglin Main Base | Some alterations |
| 1352 | 8OK02682 | 8OK01390 | Eligible | Eglin Main Base | Some alterations |
| 1353 | 8OK02682 | 8OK01391 | Eligible | Eglin Main Base | Building has been altered |
| 1355 | 8OK02682 | 8OK01392 | Eligible | Eglin Main Base | Moderate alterations |
| Hardstand 7 | | | Eligible | Eglin Main Base | Contaminated but structurally sound |
| Taxiway A | 8OK02682 | 8OK02676 | Eligible | Eglin Main Base | No description for the condition |
| Taxiway C | 8OK02682 | 8OK02677 | Eligible | Eglin Main Base | No condition description listed |
| 719 | | 8OK01521 | Eligible | Eglin Main Base | No condition description available. |
| 1326 | 8OK02682 | 8OK01384 | Eligible | Eglin Main Base | Substantially altered |
| 791 | 8OK02614 | 8OK01523 | Eligible | Eglin Main Base | Some alterations and repairs |
| Ramp Z-1 | 8OK02682 | NONE | Eligible | Eglin Main Base | No condition description listed |
| Ramp Z-2 | 8OK02682 | NONE | Eligible | Eglin Main Base | No condition description listed |
| Ramp Z-3 | 8OK02682 | NONE | Eligible | Eglin Main Base | No condition description listed |
| Ramp Z-4 | 8OK02682 | NONE | Eligible | Eglin Main Base | No condition description listed |
| Ramp Z-5 | 8OK02682 | NONE | Eligible | Eglin Main Base | No condition description listed |
| 225 | 8OK01532 | 8OK01336 | Eligible | Eglin Main Base | Minor alterations |
| 411 | 8OK02227 | 8OK01848 | Eligible | Eglin Main Base | Some alterations |
| 432 | 8OK02227 | 8OK02526 | Eligible | Eglin Main Base | Some alterations |
| 433 | 8OK02227 | 8OK02527 | Eligible | Eglin Main Base | No alterations noted |
| 434 | 8OK02227 | 8OK02528 | Eligible | Eglin Main Base | Some alterations |
| 436 | 8OK02227 | 8OK02529 | Eligible | Eglin Main Base | No damage or alterations noted |
| 430 | 8OK02227 | 8OK01913 | National Register | Eglin Main Base | Building has been altered |
| 440 | 8OK02227 | 8OK01222 | National Register | Eglin Main Base | No description available |
| 450 | 8OK02227 | NONE | National Register | Eglin Main Base | No condition description available |
| 1558 | 8OK01703 | | National Register | Eglin Main Base | No condition description available |
| 25 | 8OK01532 | 8OK01294 | National Register | Eglin Main Base | Well maintained housing area |
| 26 | 8OK01532 | 8OK01295 | National Register | Eglin Main Base | Well maintained housing area |
| 27 | 8OK01532 | 8OK01290 | National Register | Eglin Main Base | Well maintained housing area |
| 28 | 8OK01532 | 8OK01292 | National Register | Eglin Main Base | Well maintained housing area |
| 29 | 8OK01532 | 8OK01293 | National Register | Eglin Main Base | Well maintained housing area |

| Historic Structures | | | | | |
|---------------------|------------|----------------|-------------------|-----------------|---|
| Building # | District # | Structure Name | NRHP Status | ADP District | Description |
| 216 | 8OK01532 | 8OK01269 | National Register | Eglin Main Base | No condition description available in the report. |
| 238 | 8OK01532 | 8OK01531 | National Register | Eglin Main Base | Minor alterations |
| 1551 | 8OK01703 | | National Register | Eglin Main Base | No condition description available |
| 1552 | 8OK01703 | | National Register | Eglin Main Base | No condition description available |
| 1553 | 8OK01703 | | National Register | Eglin Main Base | No condition description available |
| 1555 | 8OK01703 | | National Register | Eglin Main Base | No condition description available |
| 1556 | 8OK01703 | | National Register | Eglin Main Base | No condition description available |
| 1557 | 8OK01703 | | National Register | Eglin Main Base | No condition description available |
| 1559 | 8OK01703 | 8OK01988 | National Register | Eglin Main Base | No condition description available |
| 1562 | 8OK01703 | | National Register | Eglin Main Base | No condition description available |
| 2 | 8OK01532 | 8OK01296 | National Register | Eglin Main Base | |
| 4 | 8OK01532 | 8OK01297 | National Register | Eglin Main Base | |
| 6 | 8OK01532 | 8OK01289 | National Register | Eglin Main Base | |
| 30 | 8OK01532 | 8OK01291 | National Register | Eglin Main Base | |
| 200 | 8OK01532 | 8OK01270 | National Register | Eglin Main Base | |
| 201 | 8OK01532 | 8OK01271 | National Register | Eglin Main Base | |
| 202 | 8OK01532 | 8OK01272 | National Register | Eglin Main Base | |
| 214 | 8OK01532 | 8OK01267 | National Register | Eglin Main Base | |
| 215 | 8OK01532 | 8OK01268 | National Register | Eglin Main Base | |
| 217 | 8OK01532 | 8OK01253 | National Register | Eglin Main Base | |
| 218 | 8OK01532 | 8OK01252 | National Register | Eglin Main Base | |
| 220 | 8OK01532 | 8OK01250 | National Register | Eglin Main Base | |
| 246 | 8OK01532 | 8OK01251 | National Register | Eglin Main Base | |
| 9 | | NONE | Not Assessed | Eglin Main Base | No condition description available |
| 120 | | NONE | Not Assessed | Eglin Main Base | No condition description available |
| 133 | | NONE | Not Assessed | Eglin Main Base | No condition description available |
| 196 | | NONE | Not Assessed | Eglin Main Base | No condition description available |
| 199 | | NONE | Not Assessed | Eglin Main Base | No condition description available |
| 715 | | NONE | Not Assessed | Eglin Main Base | No condition description available |
| 716 | | NONE | Not Assessed | Eglin Main Base | No condition description available |

| Historic Structures | | | | | |
|---------------------|------------|----------------|--------------|-----------------|---|
| Building # | District # | Structure Name | NRHP Status | ADP District | Description |
| 745 | | NONE | Not Assessed | Eglin Main Base | No condition description available |
| 766 | | NONE | Not Assessed | Eglin Main Base | No condition description available |
| 909 | | NONE | Not Assessed | Eglin Main Base | No condition description available |
| 2591 | | NONE | Not Assessed | Eglin Main Base | Highly modified |
| 2591 | | NONE | Not Assessed | Eglin Main Base | Highly modified |
| 10781 | | NONE | Not Assessed | Eglin Main Base | No condition description available |
| 889 | | NONE | Not Assessed | Eglin Main Base | No condition description available |
| 890 | | NONE | Not Assessed | Eglin Main Base | No condition description available |
| 891 | | NONE | Not Assessed | Eglin Main Base | No condition description is available |
| 1278 | | NONE | Not Assessed | Eglin Main Base | Building condition description not listed in this report. |
| 1302 | | NONE | Not Assessed | Eglin Main Base | Not specified in the report |
| 1303 | | NONE | Not Assessed | Eglin Main Base | Not specified in the report |
| 1304 | | NONE | Not Assessed | Eglin Main Base | Not specified in the report |
| 1340 | | NONE | Not Assessed | Eglin Main Base | Not specified in the report |
| 1342 | | NONE | Not Assessed | Eglin Main Base | Not specified in the report |
| 1346 | | NONE | Not Assessed | Eglin Main Base | Building condition description not listed in this report. |
| 1367 | 8OK02682 | NONE | Not Assessed | Eglin Main Base | No condition description listed. |
| 1398 | 8OK02682 | NONE | Not Assessed | Eglin Main Base | No condition description listed |
| 1399 | 8OK02682 | NONE | Not Assessed | Eglin Main Base | No condition description listed |
| 1441 | 8OK02682 | NONE | Not Assessed | Eglin Main Base | No condition description listed |
| 586 | | | Not Assessed | Eglin Main Base | |
| 794 | | | Not Assessed | Eglin Main Base | |
| 1550 | 8OK01703 | | Potential | Eglin Main Base | No condition description available |
| 1554 | 8OK01703 | | Potential | Eglin Main Base | No condition description available |
| 1560 | 8OK01703 | | Potential | Eglin Main Base | No condition description available |
| 1564 | 8OK01703 | | Potential | Eglin Main Base | No condition description available |
| 1565 | 8OK01703 | | Potential | Eglin Main Base | No condition description available |
| 1566 | 8OK01703 | | Potential | Eglin Main Base | No condition description available |
| 1567 | 8OK01703 | | Potential | Eglin Main Base | No condition description available |
| 1569 | 8OK01703 | | Potential | Eglin Main Base | No condition description available |

| Historic Structures | | | | | |
|---------------------|------------|----------------|-------------|-----------------|-------------------------------------|
| Building # | District # | Structure Name | NRHP Status | ADP District | Description |
| 1570 | 8OK01703 | | Potential | Eglin Main Base | No condition description available |
| 407 | 8OK02227 | 8OK00958 | Potential | Eglin Main Base | Roof has caved in |
| 1324 | | NONE | Potential | Eglin Main Base | No condition description available. |
| 1325 | | NONE | Potential | Eglin Main Base | No condition description available. |
| 23 | 8OK01532 | 8OK01298 | Potential | Eglin Main Base | Well maintained housing area |
| 1229 | | | Review | Eglin Main Base | |
| 1204 | | | Review | Eglin Main Base | |
| 91 | | | Review | Eglin Main Base | |
| 379 | | | Review | Eglin Main Base | |
| 405 | | | Review | Eglin Main Base | |
| 431 | | | Review | Eglin Main Base | |
| 529 | | | Review | Eglin Main Base | |
| 901 | | | Review | Eglin Main Base | |
| 911 | | | Review | Eglin Main Base | |
| 1268 | | 8OK02292 | Review | Eglin Main Base | |
| 1269 | | 8OK02293 | Review | Eglin Main Base | |
| 1270 | | 8OK02294 | Review | Eglin Main Base | |
| 1271 | | 8OK02295 | Review | Eglin Main Base | |
| 1272 | | 8OK02296 | Review | Eglin Main Base | |
| 1273 | | | Review | Eglin Main Base | |
| 1320 | | | Review | Eglin Main Base | |
| 1752 | | 8OK02297 | Review | Eglin Main Base | |
| 2403 | | 8OK02298 | Review | Eglin Main Base | |
| 2594 | | | Review | Eglin Main Base | |
| 10000 | | | Review | Eglin Main Base | |
| 10062 | | | Review | Eglin Main Base | |
| 10129 | | | Review | Eglin Main Base | |
| 10164 | | | Review | Eglin Main Base | |
| 10206 | | | Review | Eglin Main Base | |
| 10233 | | | Review | Eglin Main Base | |
| 10236 | | | Review | Eglin Main Base | |
| 10255 | | | Review | Eglin Main Base | |
| 10351 | | | Review | Eglin Main Base | |
| 10800 | | | Review | Eglin Main Base | |
| 10940 | | | Review | Eglin Main Base | |
| 10941 | | | Review | Eglin Main Base | |
| 11076 | | | Review | Eglin Main Base | |
| 12073 | | | Review | Eglin Main Base | |
| 12074 | | | Review | Eglin Main Base | |
| 12075 | | | Review | Eglin Main Base | |

Completed Archaeological Surveys

| Completed Archaeological Surveys | | | |
|----------------------------------|----------|-------------|-----------------|
| Survey Unit | Status | Task Order | District |
| X-0864 | Complete | CR-07-0014 | 7SFG(A) |
| X-0865 | Complete | CR-07-0015 | 7SFG(A) |
| X-0974 | Complete | CR-08-0029 | 7SFG(A) |
| X-0186 | Complete | HPP-JS-0186 | 7SFG(A) |
| X-0328 | Complete | 0044/0045 | 7SFG(A) |
| X-1137 | Complete | CR-11-0032 | 7SFG(A) |
| X-0245 | Complete | 5006 | C-6 |
| X-0662 | Complete | CR-02-0059 | Camp Rudder |
| X-0059 | Complete | HPP-0001 | Camp Rudder |
| 0031 | Complete | HPP-0001 | Camp Rudder |
| X-0165 | Complete | HPP-0001 | Camp Rudder |
| X-1141 | Complete | CR-11-0036 | Camp Rudder |
| X-0782 | Complete | CR-05-0018 | Duke Field |
| X-0781 | Complete | CR-05-0017 | Duke Field |
| X-0823 | Complete | CR-06-0034 | Duke Field |
| X-0824 | Complete | CR-06-0034 | Duke Field |
| X-0826 | Complete | CR-06-0034 | Duke Field |
| X-0828 | Complete | CR-06-0034 | Duke Field |
| X-0829 | Complete | CR-06-0034 | Duke Field |
| X-0834 | Complete | CR-06-0043 | Duke Field |
| X-0185 | Complete | HPP-0001 | Duke Field |
| X-0718 | Complete | CR-04-0017 | Duke Field |
| X-0292 | Complete | 0029 | Duke Field |
| X-0177 | Complete | HPP-0001 | Duke Field |
| X-0229 | Complete | Duke-0001 | Duke Field |
| X-0909 | Complete | CR-07-0043 | Eglin Main Base |
| X-0794 | Complete | CR-05-0031 | Eglin Main Base |
| Y-0003 | Complete | CRM-94-01 | Eglin Main Base |
| Y-0004 | Complete | CRM-94-01 | Eglin Main Base |
| X-0249 | Complete | MS502-0001 | Eglin Main Base |
| X-0243 | Complete | A289-0001 | Eglin Main Base |
| X-0279 | Complete | 0002/0003 | Eglin Main Base |
| X-0250 | Complete | MS502-0001 | Eglin Main Base |
| X-0121 | Complete | HPP-0001 | Eglin Main Base |
| X-0257 | Complete | MS502-0002 | Eglin Main Base |
| X-0228 | Complete | Prison-0001 | Eglin Main Base |
| 0118 | Complete | HPP-0001 | Eglin Main Base |
| X-0716 | Complete | CR-04-0013 | Eglin Main Base |
| X-0122 | Complete | HPP-0001 | Eglin Main Base |
| X-0278 | Complete | 0002/0003 | Eglin Main Base |
| X-0223 | Complete | 5010 | Eglin Main Base |
| X-0251 | Complete | MS502-0001 | Eglin Main Base |
| X-0017 | Complete | HPP-0001 | Eglin Main Base |

| Completed Archaeological Surveys | | | |
|----------------------------------|----------|-------------|-----------------|
| Survey Unit | Status | Task Order | District |
| X-1127 | Complete | CR-11-0018 | Eglin Main Base |
| X-0794 | Complete | CR-05-0031 | Eglin Main Base |
| X-0223 | Complete | 5010 | Eglin Main Base |
| X-0251 | Complete | MS502-0001 | Eglin Main Base |
| X-0017 | Complete | HPP-0001 | Eglin Main Base |
| X-0253 | Complete | MS-751-0002 | Eglin Main Base |
| X-0837 | Complete | CR-06-0045 | Eglin Main Base |
| X-0280 | Complete | 0009 | Eglin Main Base |
| Y-0001 | Complete | CRM-92-01 | Eglin Main Base |
| 0111 | Complete | HPP-0001 | Eglin Main Base |
| X-0793 | Complete | CR-05-0029 | Eglin Main Base |
| X-0280 | Complete | 0009 | Eglin Main Base |
| 0118 | Complete | HPP-0001 | Eglin Main Base |
| X-0799 | Complete | CR-06-0001 | Eglin Main Base |
| X-0717 | Complete | CR-04-0014 | Eglin Main Base |
| 0110 | Complete | HPP-0001 | Eglin Main Base |
| 0108 | Complete | HPP-0001 | Eglin Main Base |
| X-0343 | Complete | 0047 | Eglin Main Base |
| X-0636 | Complete | CR-02-0029 | Eglin Main Base |
| X-1188 | Complete | CR-12-0044 | Eglin Main Base |
| X-0794 | Complete | CR-05-0031 | Eglin Main Base |
| X-0837 | Complete | CR-06-0045 | Eglin Main Base |
| X-0280 | Complete | 0009 | Eglin Main Base |
| X-0660 | Complete | CR-02-0057 | Eglin Main Base |
| Y-0001 | Complete | CRM-92-01 | Eglin Main Base |
| X-0223 | Complete | 5010 | Eglin Main Base |
| X-0214 | Complete | 5010 | Eglin Main Base |
| X-0793 | Complete | CR-05-0029 | Eglin Main Base |
| X-0251 | Complete | MS502-0001 | Eglin Main Base |
| X-0253 | Complete | MS-751-0002 | Eglin Main Base |
| X-0717 | Complete | CR-04-0014 | Eglin Main Base |
| X-0343 | Complete | 0047 | Eglin Main Base |
| X-0212 | Complete | NWR-91-01 | Eglin Main Base |
| X-0008 | Complete | HPP-0001 | Eglin Main Base |
| X-0341 | Complete | 0040 | Eglin Main Base |
| X-0636 | Complete | CR-02-0029 | Eglin Main Base |
| X-0701 | Complete | CR-03-0029 | Eglin Main Base |
| X-0256 | Complete | MS-751-0002 | Eglin Main Base |
| X-0699 | Complete | CR-03-0027 | Eglin Main Base |
| X-0112 | Complete | HPP-0001 | Eglin Main Base |
| X-0390 | Complete | EM-96-28 | Eglin Main Base |
| X-0215 | Complete | 5010 | Eglin Main Base |
| X-0111 | Complete | HPP-0001 | Eglin Main Base |
| X-0700 | Complete | CR-03-0028 | Eglin Main Base |
| X-0255 | Complete | MS-751-0002 | Eglin Main Base |

| Completed Archaeological Surveys | | | |
|----------------------------------|----------|-------------|-----------------|
| Survey Unit | Status | Task Order | District |
| X-0116 | Complete | HPP-0001 | Eglin Main Base |
| X-0843 | Complete | CR-06-0053 | Eglin Main Base |
| X-0850 | Complete | CR-06-0064 | Eglin Main Base |
| X-0294 | Complete | 0011 | Eglin Main Base |
| X-0280 | Complete | 0009 | Eglin Main Base |
| X-0342 | Complete | BPA-0042 | Eglin Main Base |
| X-0720 | Complete | CR-04-0020 | Eglin Main Base |
| X-0660 | Complete | CR-02-0057 | Eglin Main Base |
| 0111 | Complete | HPP-0001 | Eglin Main Base |
| X-0793 | Complete | CR-05-0029 | Eglin Main Base |
| X-1184 | Active | CR-12-0038 | Eglin Main Base |
| X-0017 | Complete | HPP-0001 | Eglin Main Base |
| X-0422 | Complete | EM-97-21 | Eglin Main Base |
| X-0253 | Complete | MS-751-0002 | Eglin Main Base |
| X-0210 | Complete | HPP-0001 | Eglin Main Base |
| X-0211 | Complete | HPP-0001 | Eglin Main Base |
| X-0209 | Complete | HPP-0001 | Eglin Main Base |
| X-0208 | Complete | HPP-0001 | Eglin Main Base |
| X-0717 | Complete | CR-04-0014 | Eglin Main Base |
| X-0702 | Complete | CR-03-0030 | Eglin Main Base |
| X-0254 | Complete | MS-751-0002 | Eglin Main Base |
| X-0244 | Complete | A289-0001 | Eglin Main Base |
| X-0020 | Complete | HPP-0001 | Eglin Main Base |
| X-0260 | Complete | MT065-0001 | Eglin Main Base |
| X-0574 | Complete | EM-00-10 | Eglin Main Base |
| X-0246 | Complete | MS395-0001 | Eglin Main Base |
| X-0216 | Complete | 5010 | Eglin Main Base |
| X-0636 | Complete | CR-02-0029 | Eglin Main Base |
| X-0287 | Complete | 0005 | Eglin Main Base |
| X-0701 | Complete | CR-03-0029 | Eglin Main Base |
| X-0256 | Complete | MS-751-0002 | Eglin Main Base |
| X-0255 | Complete | MS-751-0002 | Eglin Main Base |

ATTACHMENTS

The 2003 Programmatic Agreement regarding the Preservation and Protection of Historical and Archaeological Resources located at Eglin AFB between the Air Armament Center at Eglin AFB, the Advisory Council on Historic Preservation, and the Florida State Historic Preservation Officer (U.S. Air Force, 2003) is attached to this appendix as Attachment D-1.

The cultural resource specific stipulations from Eglin AFB Instruction 13-212, *Range Planning and Operations*, is attached to this appendix as Attachment D-2.

REFERENCES

- Anderson, D. G., and K. E. Sassaman, 2004a. "Early and Middle Holocene Periods, 9500 to 3750 B.C." In: *Handbook of North American Indians*, Vol. 14 Southeast. Raymond D. Fogelson, ed. Smithsonian Institution, Washington.
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**ATTACHMENT D-1
2003 PROGRAMMATIC AGREEMENT**

**PROGRAMMATIC AGREEMENT
BETWEEN
THE AIR ARMAMENT CENTER, EGLIN AIR FORCE BASE,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION AND
THE FLORIDA STATE HISTORIC PRESERVATION OFFICER**

**REGARDING THE PRESERVATION AND PROTECTION OF HISTORICAL AND
ARCHAEOLOGICAL RESOURCES LOCATED AT EGLIN AIR FORCE BASE, FLORIDA**

WHEREAS, the Air Armament Center (AAC), Eglin Air Force Base, Florida, the Florida State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (Council) acknowledge that maintenance, construction, demolition, alteration, and repair of facilities and properties within Eglin AFB have the potential to affect historic properties included, or eligible for inclusion, in the National Register of Historic Places (NRHP);

WHEREAS, Eglin AFB's Cultural Resources Management Plan (CRMP) will establish policies, responsibilities and procedures for the protection of historic and cultural resources within Eglin AFB and reflects the intent of the Department of Defense to provide conscientious stewardship of historic and cultural resources located on properties owned or controlled by the Department of Defense;

WHEREAS, the CRMP will be designed to provide a framework within which historic and cultural resources at Eglin AFB are managed in a manner consistent with federal law and the mission of Eglin AFB and its tenants;

NOW, THEREFORE, the parties agree that undertakings which have the potential to affect historic properties within Eglin AFB shall be carried out in accordance with the CRMP and the following stipulations, in order to satisfy the requirements of Section 106 of the National Historic Preservation Act, 16 U.S.C. 470(f), and the Council's implementing regulation, 36 CFR Part 800, Protection of Historic Properties.

STIPULATIONS

1. PARTICIPANTS IN SECTION 106 PROCESS

AAC will ensure participants identified in 36 CFR Part 800.2(c) are included in the Section 106 consultation process, as appropriate.

2. STANDARDS AND GUIDELINES

AAC will ensure that all undertakings affecting historic properties will conform to *The Secretary's Standards for the Treatment of Historic Properties* (36 CFR Part 68) and applicable guidelines (Standards and Guidelines), incorporated herein by reference.

3. IMPLEMENTATION OF CRMP OBJECTIVES

AAC will implement the CRMP in consultation with the appropriate participants identified in 36 CFR Part 800.2(c).

4. IDENTIFICATION OF HISTORIC PROPERTIES AT EGLIN AFB

A. AAC will prepare a list of historic properties and a Historic Buildings Location Map of Eglin AFB within 60 days of the date of the execution of this Agreement and an Archaeological Sensitivity Map of Eglin AFB within 1 year of the date of execution of this Agreement:

- (1) Historic Buildings Location Map. The Historic Buildings Location map will identify:
 - a. Historic structures included in, or eligible for inclusion in, the NRHP; and
 - b. Boundaries, or proposed boundaries of historic districts, which may be included in, or eligible for inclusion in, the NRHP.
- (2) Archaeological Sensitivity Map. The Archaeological Sensitivity Map will identify:
 - a. Known archaeological sites included in, or eligible for inclusion in, the NRHP;
 - b. Areas in which currently unknown archaeological sites may be located which may be eligible for inclusion in the NRHP.

The location of all archaeological sites will remain confidential pursuant to 36 CFR 800.11(c).

B. The list and maps will be reviewed and updated annually by AAC in consultation with the SHPO. For the purpose of this Agreement, historic properties are defined in 36 CFR 800.16 (1) to be "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria. The term eligible for inclusion in the National Register includes both properties formally determined as such in accordance with regulations of the Secretary of the Interior and all other properties that meet the National Register criteria."

5. EXEMPTED ACTIONS

The Base Historic Preservation Officer (BHPO) will serve as the liaison between the SHPO, Council, AAC and all other identified consulting parties. AAC's BHPO will, in consultation with the SHPO, establish a process that will ensure the actions described below are appropriately reviewed by the BHPO prior to any undertaking. When review has been completed by the BHPO, the following actions will be exempt from further consultations:

- A. Maintenance, construction, demolition and ground disturbing activities which do not affect historic properties.
- B. Maintenance, repair and/or replacement of existing subsurface structures and roads, runways and existing utilities, so long as any ground disturbing activities are performed within previous construction limits as the original work and do not adversely affect archaeological sites.
- C. Any emergency work of the following description:

- (1) Protection of the human health and/or the environment from damage or harm by hydrocarbon or hazardous materials;
- (2) Prevention of imminent damage resulting from the threat of hurricane, tornado or other natural disaster;
- (3) Stabilization necessitated by the threat of imminent structural failure (e.g. repair or replacement of building footings); and actions waived from the usual procedures of Section 106 compliance, pursuant to 36 CFR Part 800.12 (d).

D. Interior maintenance or repair performed in accordance with the Standards and Guidelines, which does not adversely affect the character-defining interior features or spaces of an historic property.

E. Routine maintenance of historic properties is defined as follows:

- (1) Repainting (provided that surface preparation does not damage, erode or otherwise disfigure historic building materials);
- (2) Repair or replacement in kind of less than 5% of total historic materials, finishes and features;
- (3) Removal or in-kind replacement of non-historic materials, finishes and features;
- (4) Removal of non-original intrusive surface applied elements such as exterior wall-mounted conduits, pipes, wiring and junction boxes;
- (5) Replacement or installation of caulking and weather-stripping around windows, doors, walls and roofs;
- (6) Repair and replacement in kind of deteriorated or damaged trim, hardware, doors, gutters, porches, steps, roofs or parts of a roof, and window or door screens;
- (7) Replacement of glass, which shall in no case alter existing window material or form, and which may allow for the placement of double or triple glazed windowpanes with clear glazing, but shall not allow for the placement of tinted glass (which will require consultation);
- (8) Maintenance of historic features such as frames, paneled or decorated jambs or moldings through surface treatments such as cleaning, rust removal, paint removal, and re-application of protective coating systems, which shall not include sandblasting for cleaning surfaces or removing rust or paint;
- (9) Repair of historic window and door frames by patching, splicing, consolidating, or otherwise reinforcing or replacing those parts that are either extensively deteriorated or are missing, where the same configuration of panes or door panels will be retained;

F. The installation and maintenance of new security and fire protection equipment and materials, including fire detection systems, fire suppressant systems, security systems and security devices such as dead bolts, door locks, window latches, and door peepholes. (No original security devices will be removed.)

G. Routine landscaping and lawn maintenance or repair that does not adversely affect the exterior appearance or the character defining historic features or spaces of an historic property. Routine landscaping and lawn maintenance or repair includes the following:

- (1) Normal mowing, pruning, shearing, watering and feeding;
- (2) Limb or whole removal of vegetation, shrubs, or trees determined to be a safety hazard;
- (3) Removal and replacement in kind of vegetation; and
- (4) Maintenance and replacement in kind of planters, flowerbeds, sidewalks, walkways, fences and freestanding signage.

H. For the purposes of this Agreement, notwithstanding the above, the following types of activities shall not be considered routine maintenance when involving historic materials, finishes, and features of historic properties:

- (1) Masonry cleaning and repair;
- (2) Replacement of deteriorated materials, finishes and features with elements that do not conform to the Standards and Guidelines;
- (3) Application of nontraditional or historically inappropriate masonry coatings, including the painting of previously unpainted historic masonry, masonry consolidants and waterproof/water repellent coatings; and
- (4) Replacement of deteriorated materials, finishes and features which comprise more than 5% of the total area of a historic property.

I. For maintenance and repair activities not specifically identified above, consultations with the SHPO will be completed prior to initiating the undertaking.

J. The BHPO has the discretion to determine that a proposed activity, while generally qualifying as a maintenance or repair activity specifically identified above, may nonetheless present unique circumstances which, in the BHPO's discretion, mandate consultation. These unique circumstances may include, but are not limited to, instances where the activity:

- (1) Is of greater scope or size than generally anticipated by this Agreement;
- (2) Poses a potential for degradation (even though slight) of an already marginal or poor historic property; or
- (3) Utilizes nontraditional, unproven technology and or materials.

6. REHABILITATION, LONG-TERM MAINTENANCE AND PRESERVATION OF HISTORIC STRUCTURES

A. Historic properties shall be preserved, maintained and rehabilitated in accordance with the recommended approaches in the Standards and Guidelines. For the purposes of this Agreement, the term "rehabilitation" shall include construction activities commonly referred to as "remodeling" and "renovation."

B. All design and construction documents developed pursuant to this Agreement shall be developed in consultation with the SHPO. Unless agreed to in advance on a project-specific basis, design submission documents prepared pursuant to this Agreement shall be made by AAC and submitted to the SHPO at the completion of the conceptual schematic, advanced schematic, design development and contract document phases of structural maintenance, repair and rehabilitation projects.

C. Rehabilitation of non-historic additions to individual historic properties or to non-contributing structures within historic districts identified in Stipulation 4(A), shall be subject to the provisions of Stipulation 7(A), below.

7. CONSTRUCTION

A. AAC shall ensure that all new construction within an historic district identified in Stipulation 4(A) shall be compatible with the scale, massing, color, and materials of the nearby historic properties and shall be designed in accordance with the recommended approaches to new construction set forth in the Standards and Guidelines. Construction not included within a district that may affect an historic property will be reviewed and forwarded by the base historic preservation officer to the SHPO on a case by case basis.

B. AAC shall ensure that the design of all construction affecting historic properties shall be assessed pursuant to 36 CFR Part 800.5. Unless a project-specific agreement has been reached between the AAC and the SHPO, design submission documents prepared pursuant to this Agreement shall be submitted for review at the completion of the conceptual schematic, advanced schematic, design development and contract document phases of construction projects.

C. If an adverse effect is found, AAC will consult further to resolve the adverse effect pursuant to 36 CFR Part 800.6.

8. DEMOLITION OF HISTORIC PROPERTIES

A. AAC will ensure that AAC or any tenant or host command does not inadvertently cause the demolition of an historic property. AAC will ensure that the following measures are completed prior to approving any actions that could cause the demolition of an historic property:

(1) A consultation package shall be prepared by AAC when an undertaking is proposed that may result in the demolition of an historic property. The consultation package shall document the reason(s) that the responsible command believes preservation of the historic property is not a prudent and feasible alternative to demolition, and shall be submitted to the SHPO for review. The SHPO shall have 30 days from the date of receipt for review.

(2) The consultation package shall include, in addition to measures in stipulation A, the following information:

- a. The identification of, and location maps for, all affected historic properties, including clearly delineated boundaries for any affected historic district;
- b. An assessment of the effects of the undertaking with regard to historic properties;

c. An analysis of reasonable alternative courses of action considered and the reasons for their rejection; and

d. A description of strategies proposed for mitigating adverse effect(s).

B. If the SHPO determines that AAC has not supported its decision to demolish, AAC (in conjunction with a tenant or host command, if necessary) will consult with the SHPO to develop alternatives to the demolition. The resolution of the adverse effect will continue pursuant to 36 CFR 800.6.

C. If demolition or alteration of historic properties is undertaken, AAC will include, in any Memorandum of Agreement concerning those actions, the stipulation that AAC, in consultation with the SHPO, will, prior to approving the undertaking, identify and, where appropriate, salvage any character-defining historic interior or exterior features of an historic property, when such salvage is reasonable, feasible and prudent.

9. RECORDATION OF HISTORIC PROPERTIES

In accordance with AFI 32-7065 and 32-9004, AAC will consult with the SHPO and the Advisory Council on Historic Preservation prior to the demolition of historic properties to determine whether recordation is necessary, and if so, at what level.

10. TREATMENT OF ARCHAEOLOGICAL PROPERTIES

A. In consultation with the SHPO, the AAC shall develop a program of archaeological survey to locate, inventory, and evaluate archaeological sites and shall establish a procedure for the protection and preservation of sites included in, or eligible for inclusion in, the NRHP.

B. If an undertaking at Eglin AFB will adversely effect an archaeological site, AAC will resolve the adverse effect pursuant to 36 CFR Part 800.6.

C. If historic properties are discovered during implementation of an undertaking, AAC will proceed pursuant to 36 CFR 800.13.

D. AAC shall actively ensure compliance with the Archaeological Resources Protection Act of 1979 (ARPA) and will advise all contract and Air Force personnel and resident dependents against illegal collection of cultural materials and the penalties for such collection imposed by the Act. Appropriate measures will be developed by AAC for the protection of historic properties from looting and vandalism and for protection under ARPA.

11. DISPUTE RESOLUTION

A. Should any of the signatories to this Agreement object within 30 days to any plans or specifications provided for review pursuant to this Agreement, AAC will consult with the objecting party to resolve the objection. If AAC determines that the objection cannot be resolved, AAC will invite the Council to review the relevant documentation pertaining to the issue in dispute. Within 15 days after receipt of all pertinent documentation, the Council will advise the consulting parties as to whether it will comment pursuant to 36 CFR 800.6(a)(1)(iii). Council comment provided in response to such a request will be taken into account by AAC in accordance with 36 CFR Part 800.6(c)(2) with reference to the subject of the dispute. Any recommendation

or comment provided by the Council will be understood to pertain only to the subject of the dispute.

12. PROJECT REVIEW, MONITORING, AND TECHNICAL ASSISTANCE

A. The BHPO shall provide to the SHPO for review, plans, specifications and other proposals for work as required pursuant to the terms of this Agreement. The SHPO shall provide comments to AAC within 30 working days of receipt of complete and sufficient project information delivered to:

Division of Historical Resources
 Compliance Review Section
 State Historic Preservation Office
 R.A. Gray Building, Room 423
 500 South Bronough Street
 Tallahassee, Florida 32399-0250
 (850) 245-6333
 Fax (850) 245-6437

B. Documentation sufficient to enable professional evaluation of the proposed undertaking will accompany each review request. Any question regarding the sufficiency of documentation will be resolved through consultation with the SHPO.

C. If the SHPO objects to any element of a plan, specifications, or other proposals for work at Eglin AFB, AAC, in consultation with the SHPO, will consider alternatives to the proposed undertaking. The conclusion of these considerations will be documented in writing by AAC and provided to the SHPO.

D. Should substantial changes be proposed by AAC for plans and specifications previously reviewed by the SHPO, these changes shall be submitted for review and comment pursuant to the terms of the applicable Stipulation of this Agreement.

E. The SHPO shall provide technical assistance, consultation and expert advice when requested to do so by AAC to aid AAC in complying with the terms of this Agreement.

13. PROGRAM REVIEW

A. At the end of each state fiscal year, the SHPO or AAC may request a review of the terms and conditions of the Agreement, which may be amended following consultation between the parties.

B. AAC will provide the SHPO an opportunity to inspect work sites and project files to verify adherence to the stipulations of this Agreement. At the SHPO's request, but at least once per year, AAC shall provide information about, or access to all records concerning, undertakings that affect historic properties within Eglin AFB.

C. The BHPO will submit an annual report to the SHPO and the Council within 60 days of the anniversary of the execution of this Agreement. The report will describe the nature and status of the previous year's undertakings which were covered by the terms of this Agreement and reviewed by the BHPO. The report will describe actions taken to implement the terms of the

Agreement, provide suggestions, if appropriate, for modifying or amending the Agreement, and any recommendations for implementing the Agreement over the coming year.

Execution and implementation of this Programmatic Agreement evidences that the AAC has afforded the Council a reasonable opportunity to comment and that the AAC has taken into account the effects of all undertakings carried out under the terms of this Agreement.

FLORIDA STATE HISTORIC PRESERVATION OFFICER

BY: *Janet Snyder Matthews* DATE: *7/17/2002*
TITLE: State Historic Preservation Officer

THE UNITED STATES AIR FORCE, AIR ARMAMENT CENTER

BY: *Rhet W. Cleister* DATE: *11 Aug 02*
TITLE: Commander

ADVISORY COUNCIL ON HISTORIC PRESERVATION

BY: *[Signature]* DATE: *2/14/03*
(S) TITLE: *Executive Director*

ATTACHMENT D-2
EGLIN AFB INSTRUCTION 13-212, RANGE PLANNING AND OPERATIONS

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| Fire Management | 882-6233 |
| Fire Dispatch | 882-5856 |
| USFWS Panama City Office | 850-769-0552 |
| NMFS Southeast Regional Office, Marine Mammal Branch | (727) 824-5312 |
| Marine Mammal Stranding Network | 877-433-8299 |

7.3. Cultural Resources

7.3.1. Cultural Resources (CR) on Eglin consist of archaeological sites, structures, artifacts, and any other physical evidence of human activity considered relevant to a culture or community for scientific, traditional, religious, or other reasons. Resources include archaeological deposits or surface materials, historic architectural resources, American Indian sacred sites, and traditional cultural properties.

7.3.2. As a Federal Agency, Eglin AFB is required by law to consider the effects its actions may have on historic properties and the cultural environment. Guidance to the form and process of these considerations and evaluations are provided in the AFI 32-7065 (USAF 2004). The considerations are mandated by the National Environmental Policy Act (NEPA) of 1969, the National Historic Preservation Act (NHPA) of 1966, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the American Indian Religious Freedom Act (AIRFA), among other acts of Congress.

7.3.3. In addition, Eglin AFB has specific and explicit legal arrangements with several state and federal agencies concerning the treatment of cultural resources. These include Programmatic Agreements and Memoranda of Agreement with the Air Force Air Armament Center, the Army Seventh Special Forces Group, The Joint Strike Fighter Program, the United States Marine Corps, the Advisory Council on Historic Preservation, and the Florida State Historic Preservation Officer. These are referenced as the BRAC PA, EGLIN CR PA, and the USMC MAE MOA. There is also an Air Force command directive treating cultural resources (AFI 32-7065) as well as a binding internal document in the form of an Integrated Cultural Resources Management Plan (ICRMP) that dictates certain policies and procedures.

7.3.4. Responsibilities of Eglin and all Subsidiary DoD Missions Concerning Cultural Resources
 Historic structures and archaeological resources on federal land are protected by the federal laws outlined above.

7.3.4.1. There are consequences for violating these laws.

7.3.4.1.1. Individuals removing artifacts from subsurface deposits without a permit are subject to criminal penalties.

7.3.3.1.2 Organizations destroying historic properties without due process open the federal government to civil lawsuits that put USAF and all associated DoD agency projects and operations at risk of legal injunction and loss of project funding.

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7.3.4.2. Individual missions are responsible for making their personnel aware of and respectful of these laws and regulations as well as the instructions contained within this document as they pertain to cultural resources at Eglin AFB.

7.3.4.3. Eglin CR personnel are available to brief appropriate staff members on the importance of protecting cultural resources (882-8459, 883-5201).

7.3.5. Areas Cleared by Eglin CR for Mission Activity.

7.3.5.1. As a general principle, there are three levels of cultural resources operating limitation on Eglin.

7.3.5.1.1. No Walk Zones. These buffer zones are off limits to troop movements, off-road vehicle operations, and digging or any type of ground surface disturbance. These areas contain archaeological resources that are on or near the surface that are potentially disturbed by such activity. This restriction does not apply to foot or vehicle traffic on existing roadbeds that pass through such zones.

7.3.5.1.2. No Vehicle/No Digging Areas. These high probability areas should be considered off limits to off-road vehicle operation or any type of ground penetrating activity. Disturbance of the soil in these areas has the potential to adversely effect known or as yet undiscovered historic properties. Existing roadbeds are excluded from this restriction.

7.3.5.1.3. Cleared Areas. These areas have no cultural resource concerns or restrictions. Many areas on the ETTC have been cleared for ground surface training exercises and weapons testing purposes.

7.3.5.2. Most ranges cleared for ground force training exercises have been cleared for ground surface activity only. The following rules therefore generally apply.

7.3.5.2.1. Training activities will be limited to the ground surface only. There will be no digging, trenching or other subsurface disturbances.

7.3.5.2.2. All vehicle traffic will be confined to existing roads.

7.3.5.2.3. Any deviation from these requirements must be cleared in advance by contacting Eglin CR (882-8459, 883-5201).

7.3.6. Securing Clearance for Mission Activity from Eglin CR.

7.3.6.1. All missions involving a use of land that has not been previously cleared by Eglin CR for that same type of activity must be cleared through Eglin CR via the Environmental Impact Assessment Process (EIAP). This will usually entail the completion of Form AF 813. The EIAP

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office (882-0044) is the standard point of contact for information on how to fulfill this requirement.

7.3.7. Policy of Avoidance

7.3.7.1. Even on active ranges cleared for mission activity, all historic properties (defined as historic buildings, historic or prehistoric structures, and/or archaeological sites) will be avoided whenever possible in the course of any testing and training activity.

7.3.7.2. Coordinates of areas to be avoided and the level of avoidance should be obtained in advance of any operation through the Central Scheduling Enterprise (CSE).

7.3.7.3. Under some circumstances, Eglin CR can also provide current maps of buildings, structures, and areas to be avoided along with description of the avoidance measures to be employed and any boundary markers deployed to range management and range users upon request.

7.3.7.4. Given due notification by range management, Eglin CR will ensure that visual markers are in place in the area of concern to communicate the boundaries of off-limits areas. These markers will include one or more of the following.

7.3.7.4.1. Signage posted at close intervals at eye level.

7.3.7.4.2. Painted trees and vegetation.

7.3.7.4.3. Flagging tape.

7.3.7.4.4. Permanent fencing.

7.3.7.4.5. Other removable barriers.

7.3.8. Tentative and Sensitive Nature of Cultural Resources Information.

7.3.8.1. It should be understood that the surveying of cultural resources is an ongoing process at Eglin and the inventory is constantly evolving. Not only are new archaeological sites discovered but older buildings and structures are established as historic properties on a regular basis. In addition, some buildings, structures and sites are occasionally removed from protection.

7.3.8.1.1. Additional surveys are scheduled for many Closed Training Areas and Bombing and Test Ranges. Areas deemed high probability for containing cultural resources that have not yet been surveyed are NOT cleared by Eglin CR and therefore presently off-limits to all weapons testing and ground maneuvers.

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7.3.8.1.2. Archaeological sites deemed not eligible for the National Register of Historic Places are considered insignificant and may be subsequently removed from protection through subsurface testing procedures. Many sites on active ranges have yet to be tested and may be scheduled for such by Eglin CR if they lie within the area of potential effect of upcoming mission activity.

7.3.8.2. For these reasons, it is not possible for Eglin CR to simply provide clients with a single definitive static map of cultural resources for purposes of making their own determinations of available terrain. Moreover, there is a need to limit access to cultural resources data due to the inherent vulnerability of many historic and prehistoric sites and structures.

7.3.8.2.1. Range managers must therefore maintain regular dialog with Eglin CR, access the CSE, and employ the EIAP process in order to ensure required avoidance of protected cultural resources.

7.3.9. Planning Tools.

7.3.9.1. Eglin CR and proponents will consult during the planning stages of each new project to ensure that project planners are aware of the locations of historic properties and areas of concern.

7.3.9.2. Eglin CR can provide information on the relative abundance and/or general location of cultural resource concerns in the form of maps, coordinates in CSE, or quantified lists by subcompartment that present the following.

7.3.9.2.1. Low Probability Areas. Areas of the range that are not known to contain eligible or potentially eligible historic properties, and are considered unlikely to contain such properties.

7.3.9.2.2. High Probability Areas (HPA's). Areas likely to contain eligible or potentially eligible historic properties and need to be surveyed.

7.3.9.2.3. Buffer Zones. Areas that contain known eligible and/or potentially eligible historic properties that require avoidance.

7.3.9.3. The areas outlined above entail the following restrictions.

7.3.9.3.1. All HPA's and Buffer Zones should be considered no vehicle/no digging areas. Disturbance of the soil in these areas has the potential to adversely effect known or as yet undiscovered historic properties. Existing roadbeds are excluded from this restriction.

7.3.9.3.2. All Buffer Zones are off limits to foot traffic and troop movements. They contain archaeological resources that are on or near the surface that are potentially disturbed by such activity. Existing roadbeds are excluded from this restriction.

7.3.9.3.3. Low Probability Areas entail no cultural resource restrictions, though inadvertent discovery protocol described in paragraph 7.3.10. remains in effect.

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7.3.9.4. Any project that entails deviation from these restrictions is likely to involve further cultural resources survey, testing, and/or consultation with the State Historic Preservation Office and possibly Native American Tribal organizations.

7.3.10. Inadvertent discoveries.

7.3.10.1. Archaeological Deposits. If archaeological deposits (buried architecture, features such as dense deposits of shell, or clusters of artifacts) are encountered on the ground in the course of any mission activity, the following actions are to be taken:

7.3.10.1.1. All disturbance of the ground surface shall cease and the discovery will be secured from further harm.

7.3.10.1.2. Eglin CR (882-8459 or 883-5201) shall be immediately informed of the discovery.

7.3.10.2. Human Remains. If human remains and/or funerary objects such as a coffin or complete, intact aboriginal pottery are discovered in the course of any mission activity, the following actions are to be taken.

7.3.10.2.1. All disturbance of the ground surface in the area shall cease and the discovery will be secured from further harm until further notice.

7.3.10.2.2. Eglin CR shall be immediately informed of the discovery.

7.3.10.2.3. An Eglin CR archaeologist will investigate and consult with Eglin law enforcement in determining whether the remains are of forensic significance.

7.3.10.2.4. Activities may be cleared to proceed in between 3 and 30 days from notification, depending upon whether the remains are determined to be forensically significant, of Native American descent, or neither.

7.4. Waste Management.

7.4.1. General.

7.4.1.1. The goal of the Environmental Compliance Pollution Prevention Branch (CEVCP) is to help reduce production of waste materials and toxic pollutants through promotion of innovative new technologies, alternative raw materials, effective management practices, relevant training and efficient inventory control. Management guidance is provided for the Solid Waste, Recycling, and Hazardous Materials Management (HazMat Cell) programs. Pollution prevention philosophy is to be infused to all environmental programs to ensure efficient and cost-effective means of environmental stewardship and compliance.

**ATTACHMENT D-3 BASE REALIGNMENT AND CLOSURE ACT (BRAC)
PROGRAMMATIC AGREEMENT**

**PROGRAMMATIC AGREEMENT
AMONG
EGLIN AIR FORCE BASE
SEVENTH SPECIAL FORCES GROUP (AIRBORNE)
JOINT STRIKE FIGHTER PROGRAM
AND
THE FLORIDA STATE HISTORIC PRESERVATION OFFICER
REGARDING
THE PROPOSED IMPLEMENTATION OF THE BASE REALIGNMENT AND
CLOSURE (2005) DECISION AND RELATED ACTIONS,
EGLIN AIR FORCE BASE, FLORIDA**

WHEREAS, in response to the 2005 Base Realignment and Closure (BRAC) decision approved by Congress, the U.S. Army's Seventh Special Forces Group (Airborne) [7SFG(A)] and the Joint Strike Fighter (JSF) pilot training program, consisting of elements from the U.S. Navy, Marines and Air Force, will relocate to Eglin Air Force Base (Eglin AFB), Florida (See vicinity maps, Appendix A); and

WHEREAS, the Air Force, Army, Navy and Marines, have identified four separate but interrelated needs that must be met to implement the BRAC recommendations: (1) a cantonment for the 7SFG(A); (2) range training areas for the 7SFG (A); (3) a cantonment for the JSF; and (4) flight training areas for JSF. Eglin AFB will be responsible for meeting these needs, which will require construction, demolition, renovation and operational use of lands and facilities throughout Eglin AFB (the "Undertaking"); and

WHEREAS, the Area of Potential Effects (APE) for the undertaking, as further described below, contains multiple historic buildings, structures and archaeological sites as well as five historic districts that are either listed in or eligible for listing in the National Register of Historic Places (NRHP); and

WHEREAS, Eglin AFB has consulted with Florida State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP) pursuant to 36 CFR Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C 470f), has determined that the undertaking will have an adverse effect on historic properties; and

WHEREAS, Eglin AFB has provided the public with an opportunity to comment on this undertaking through coordinated compliance with Section 106 and the National Environmental Policy Act, as set forth in 36 CFR Part 800.8; and

WHEREAS, Eglin AFB has consulted with the 7SFG (A) Command and the JSF Command and invited them to be signatories to this Programmatic Agreement (PA); and

WHEREAS, Eglin AFB has consulted with SAC Memorial Project, a private veterans organization, concerning the adverse effects of the undertaking to the SAC Alert Historic District and has invited it to be a concurring party to this PA; and

WHEREAS, Eglin AFB has also consulted with four federally recognized tribes, the Miccosukee Tribe of Indians of Florida, the Seminole Tribe of Florida, the Poarch Band of Creek Indians of Alabama, and the Muskogee (Creek) Nation of Oklahoma (the tribes), concerning places of religious and cultural significance to them that may be affected by the undertaking and has invited the tribes to participate as concurring parties to this agreement; and

WHEREAS, Eglin AFB, in developing this PA, has met the requirements of Section 8 (Demolition of Historic Properties) of the Programmatic Agreement between Eglin AFB, the SHPO and the ACHP regarding the preservation and protection of historical and archaeological resources located at Eglin AFB, which was implemented on February 14, 2003 (Eglin Air Force Base 2003);

NOW THEREFORE, the signatories to this PA agree that the proposed BRAC development within Eglin AFB will be implemented in accordance with the following stipulations in order to take into account the effects of the undertaking.

Background

I. Description of the Undertaking

- A. In compliance with the BRAC recommendations, Eglin AFB will accommodate the training needs of the 7SFG(A) and the JSF commands. For 7SFG(A), this means building a new cantonment; utilizing 13 training ranges (which will require either new range construction or modifying existing ranges as needed); conducting ground and water-to-shore maneuvers in existing closed training areas; and constructing two new drop zones for air-to-ground training. For JSF, the undertaking will entail modifying an existing portion of the Eglin Main airfield to construct a new cantonment; utilizing three existing air fields for flight training; and using multiple bombing ranges for target practice. The undertaking will involve renovation and demolition of existing buildings and structures, construction of new buildings and facilities, construction-related ground disturbance, ground disturbances associated with operational use of bombing ranges, and noise generated through aircraft operation.
- B. Because the 7SFG(A) and JSF components of the undertaking are functionally and spatially distinct, this PA is organized to resolve the adverse effects of each component in succession. Specific stipulations relevant to both components are cited where applicable; general stipulations follow at the end of the document.

II. Site Probability Model

- A. Eglin AFB has developed an installation-wide archaeological Site Probability Model. The model is based upon the environmental signature of known prehistoric archaeological sites. It correlates site location, landform and proximity to potable water to predict the expected location of sites in areas that have not yet been inventoried. Eglin AFB uses the Site Probability Model to characterize the landscape within the base as either high or low probability for prehistoric archaeological sites (Eglin Air Force Base Historic Preservation).

- B. Eglin AFB has also identified the probable locations of former historic homesteads that are now archaeological sites by researching archival records on homestead claims. These results, plus the predicted location of prehistoric archaeological sites, are used to define the probability areas. The Site Probability Model is used to guide identification efforts; high probability areas are surveyed whereas low probability areas are typically not surveyed.
- C. The SHPO accepts the validity of the Site Probability Model and its use for identification in this manner. Eglin AFB has used, and will continue to use, the Site Probability Model to determine where to conduct additional archaeological survey needed for the 7SFG(A) and JSF components of the BRAC undertaking.

Stipulations

III. Seventh Special Forces Group (Airborne)

A. Area of Potential Effects

The APE for the 7SFG(A) component is shown on the map in Appendix B and consists of the following elements

1. The Cantonment Area
2. Group 1 Training Ranges
3. Group 2 Training Ranges
4. Closed Training Areas
5. Drop Zones
6. Shoreline Infiltration Training Areas

Note: Infiltration training at shoreline/riverine sites for the 7SFG(A) is intended within Eglin AFB. Planning, however, has not identified those areas and as a consequence they are not currently included in the APE for the BRAC undertaking. When 7SFG(A) can describe the shoreline infiltration training activities that will take place, and identifies the location and extent of the areas needed for training, then Eglin AFB, in consultation with 7SFG(A), shall prepare an amendment to this PA following Stipulation X. The amendment shall identify the training activities to be conducted, the location and extent of the training areas, a description of all recorded cultural resources within these areas and an assessment of whether or not additional survey is needed. The amendment will commit Eglin AFB to comply with the terms of this PA in resolving the adverse effects of shoreline/riverine training for the BRAC undertaking.

B. Identification

Eglin AFB, in consultation with the SHPO, has determined that historic properties are present within the 7SFG(A) component of the BRAC APE. The results of identification and NRHP determinations are presented in Appendix C and further summarized below.

1. Cantonment

Four cultural resources surveys, covering 69.5 acres, have been conducted in the 500-acre APE for the proposed 7SFG(A) Cantonment. All high probability areas have been surveyed and no cultural resources have been identified. Survey of the Cantonment area is complete.

2. Group 1 Training Ranges

Three cultural resources surveys, covering 14.4 acres, have been conducted in the 27.7-acre APE for the Group 1 Training Ranges. All high probability areas have been surveyed and no cultural resources have been identified. Survey of the Group 1 Training Ranges is complete.

3. Group 2 Training Ranges

- (a) Thirty-eight cultural resources surveys, covering 5,311 acres, have been conducted within the 9,015-acre APE for the Group 2 Training Ranges. All high probability areas have been surveyed, except for 119 acres, which were excluded from survey due to the presence of unexploded ordinance. Survey of the Group 2 Training Ranges is complete.

- (b) The surveys identified 32 archaeological sites and seven buildings. Eglin AFB, in consultation with SHPO, has determined that 21 of the archaeological sites are not NRHP eligible; however, 11 sites may be eligible. Four of the seven buildings are NRHP eligible and three of the buildings may be eligible (See Appendix C).

4. Closed Training Areas

- (a) Two hundred two cultural resources surveys, covering 40,113 acres, have been conducted within the 62,222-acre APE for the Closed Training Areas. The surveys targeted only those areas that the Site Probability Model indicated have a high probability for historic archaeological sites. At Eglin AFB, historic archaeological sites have an above ground expression whereas prehistoric archaeological sites are typically found in subsurface contexts and are thus protected from training-related surface disturbances. Prehistoric archaeological sites have also been recorded during survey where the historic and prehistoric high probability areas have overlapped. The remaining high probability areas for prehistoric archaeological sites within the APE for the Closed Training Areas, however, will not be surveyed for the BRAC undertaking because training related disturbances will be limited to surface ground disturbance only, as further discussed in Stipulation III.D.4.(a)

- (b) The surveys have identified a total of 285 archaeological sites and two buildings. Eglin AFB, in consultation with the SHPO, has determined that 243 sites are not NRHP eligible; two sites are NRHP eligible and 40 sites may be eligible for NRHP listing. The two buildings are eligible for NRHP listing (See Appendix C). Eglin

AFB has completed SHPO consultation on all surveys except for seven reports. Eglin AFB will complete SHPO consultation on the results of these surveys and make determinations of NRHP eligibility, as needed, following the procedures in Stipulation III.C below.

- (c) Additional survey of the high probability areas for historic archaeological sites is required to complete identification for the Closed Training Areas. All surveys shall be conducted by a professional meeting the qualifications standards in Stipulation V. The surveys will be carried out following the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation included herein by reference. As new surveys are completed, Eglin AFB will submit survey reports to SHPO for review.

5. Drop Zones

Ten cultural resources surveys, covering 606 acres, have been conducted within the 764-acre APE for the Drop Zones. All high probability areas have been surveyed resulting in the identification of two archaeological sites. Survey of the Drop Zones is complete. Eglin AFB, in consultation with the SHPO, has determined that one of the archaeological sites is not NRHP eligible and one site may be NRHP eligible (See Appendix C). Eglin AFB, in consultation with SHPO, shall determine the NRHP eligibility of the site following Stipulation III.C.

6. Shoreline Infiltration Training Areas

See note in Stipulation III.A.

C. National Register Eligibility

1. At Eglin AFB, archaeological sites require subsurface testing to determine their NRHP eligibility status. Any archaeological site that will be adversely affected by the undertaking that has not been previously evaluated will be tested for NRHP eligibility. Only those sites that are determined to be NRHP eligible will be subject to data recovery, if, after further consultation, Eglin AFB determines data recovery is appropriate. Eglin AFB will not be required to consult with SHPO prior to eligibility testing. All testing of archaeological sites will be conducted by a professional who meets the qualification standards in Stipulation V. If an archaeological site can be avoided in accordance with Stipulation III.E.1, Eglin AFB may choose not to test the site for NRHP eligibility until a later time. Under these circumstances, the undertaking may take place provided that any measures necessary to ensure avoidance are put in place.
2. Eglin AFB, in consultation with SHPO, will make a determination of NRHP eligibility for any building or structure not previously evaluated that will be adversely affected by the undertaking. Additional recording may be required to update structural inventory forms, or similar documents, which Eglin AFB will submit to SHPO for consultation on NRHP eligibility. All recording of buildings or structures will be conducted by a

professional who meets the qualification standards in Stipulation V. Only those historic buildings and structures that are determined NRHP eligible shall be subject to treatment. If, however, the building or structure will not be affected following Stipulation III.E.1, then Eglin AFB may choose not to consult on its eligibility status until a later time. Under these circumstances, the undertaking may take place provided that any measures necessary to ensure avoidance are put in place.

3. In those cases where Eglin AFB must make a determination of NRHP eligibility because an archaeological site or historic building or structure may be adversely affected, or it chooses to make an NRHP eligibility determination following avoidance, Eglin AFB will follow the procedures presented below.
 - (a) Eglin AFB shall submit an archaeological testing report or an updated structural inventory form, as applicable, to SHPO for a 30-day review along with its eligibility recommendations. If a prehistoric archaeological site is tested, Eglin AFB shall also submit the testing report to the tribes. The tribal review will be concurrent with the SHPO review.
 - (b) If the SHPO does not respond within the 30-day comment period, Eglin AFB will assume that SHPO has no objection to its eligibility determination. Eglin AFB shall take into consideration any comments and recommendations received by the tribes during the 30-day review period in making its eligibility determination.
 - (c) Where there is agreement on eligibility between Eglin AFB and the SHPO, the eligibility determination will be accepted by both parties. Any disagreement between Eglin AFB and the SHPO over the eligibility determination shall be submitted by Eglin AFB to the Keeper of the National Register for determination pursuant to 36 CFR Part 63. The Keeper's determination shall be final.

D. Assessment of Effects

The 7SFG(A) component of the BRAC undertaking will involve construction-related ground disturbance, as well as ground disturbances associated with the operational use of firing ranges and training areas that contain NRHP eligible archaeological sites and buildings. As such, the characteristics that make these historic properties eligible for listing in the NRHP may be altered in ways that diminish their integrity of location, setting, materials or other aspects of integrity.

1. The Cantonment Area

There are no historic properties within the Cantonment Area. The proposed construction of the Cantonment Area will have no effect to historic properties. Should archaeological deposits be discovered during construction, however, Eglin AFB will follow the provisions for unanticipated discoveries in Stipulation VI.

2. Group 1 Training Ranges

There are no historic properties within the Group I Training Ranges. The proposed construction of the Group I Training Ranges will have no effect to historic properties. Should archaeological deposits be discovered during construction, however, Eglin AFB will follow the provisions for unanticipated discoveries in Stipulation VI.

3. Group 2 Training Ranges

- (a) Ground disturbance relating to the construction of new ranges or modifications to existing ranges, plus the operational use of the ranges after construction, may adversely affect the 11 recorded archaeological sites that are potentially eligible to the NRHP as well as the four NRHP eligible buildings and the three buildings that are potentially eligible for NRHP listing.
- (b) Any NRHP eligible archaeological site or building that cannot be protected through avoidance in accordance with Stipulation III.E.1 will be adversely affected by the undertaking. Eglin AFB shall coordinate with 7SFG(A) and follow the procedures in Stipulation III.E.2 through III.E.4, as applicable, to resolve the adverse effects.

4. Closed Training Areas

- (a) Operational use of the Closed Training Areas will result in disturbances to ground surfaces only. These disturbances will occur through pedestrian use of the Training Areas by small units of trainees. All vehicle traffic will be confined to existing roads and trails. The trainees will use existing bivouac sites. There will be no digging or trenching or other subsurface disturbances during the training use of the Closed Training Areas by the 7SFG(A).
- (b) Surface ground disturbance relating to the operational use of the Closed Training Areas, may adversely affect the 44 recorded archaeological sites and buildings that are either NRHP eligible or potentially eligible for listing. Additional NRHP eligible archaeological sites and buildings may be identified during continued survey in the Closed Training Areas.
- (c) Any NRHP eligible archaeological site or building that cannot be protected through avoidance in accordance with Stipulation III.E.1 will be adversely affected by the undertaking. Eglin AFB shall coordinate with 7SFG(A) and follow the procedures in Stipulation III.E.2 through III.E.4, as applicable, to resolve the adverse effects.
- (d) Eglin AFB will exclude from all ground maneuvers those portions of the Closed Training Areas that have yet to be surveyed for cultural resources and will inform the 7SFG(A) where the exclusions apply. Eglin AFB will notify 7SFG(A) when the requirements of this PA have been met for these areas and when these areas can be used for training purposes.

5. Drop Zones

- (a) Construction related activities and/or operational use of the Drop Zones may adversely affect the one archaeological site that may be NRHP eligible. The site will either be avoided in accordance with the procedures in Stipulation III.E.1, or if avoidance is not possible or desirable, Eglin AFB will, as needed, make a determination of NRHP eligibility in accordance with Stipulation III.C.
- (b) Should the site be determined to be NRHP eligible, and if it cannot be protected through avoidance, the site will be adversely affected by the undertaking. Eglin AFB shall coordinate with 7SFG(A) and conduct either archaeological data recovery in accordance with Stipulation III.E.2 or alternative mitigation pursuant to Stipulation III.E.4, to resolve the adverse effects.

6. Shoreline Infiltration Training Areas

See note in Stipulation III.A.

E. Resolution of Adverse Effects

All historic properties will be avoided whenever possible for the duration of this agreement. Where avoidance is not possible or desirable, Eglin AFB shall resolve the adverse effects of the BRAC undertaking. Avoidance, archaeological data recovery, architectural treatment and alternative mitigation will be achieved in the following manner.

1. Avoidance Measures

- (a) Avoidance and preservation in place of archaeological or architectural resources will require use of highly visible avoidance measures installed on the ground around the recorded limits of the sites or buildings for the purpose of communicating “off limits” to trainees. The avoidance measures shall include one or more of the following as needed.
 - (1) Flagging: Installing temporary flagging around the limits of the site or building using colored flagging tape.
 - (2) Painting trees/vegetation: Applying highly visible paint to trees or other vegetation.
 - (3) Temporary fencing: Installing temporary fencing around the limits of the site or building using removable fencing, such as chain link fencing or wire and T posts.
 - (4) Other removable barriers: Installing removable barriers, such as earthen berms or portable concrete barriers.

- (5) Signage: Installing permanent or semi-permanent signage at eye level in proximity to the site or building. Eglin AFB shall employ a universally recognizable symbol printed on metal or other durable material that is mounted on metal stakes or posts and set on the ground around the limits of the site or building as needed.
 - (6) Gating and other permanent barriers: Constructing permanent barriers, such as gates, around the limits of sites or buildings.
- (b) Eglin AFB will map the location of all archaeological sites and historic buildings to be avoided for the BRAC undertaking and describe in writing the avoidance measures used for each site.
- (c) Eglin AFB shall install all avoidance measures and ensure that for the BRAC undertaking all avoidance measures are in place on the ground before a training range or training area can be used for training purposes. Eglin AFB will not be required to consult with the SHPO or other consulting parties when avoidance can be achieved, but may seek their advice, as needed.
- (d) To ensure that avoidance is achieved in a consistent and coordinated manner, Eglin AFB shall
- (1) Consult with 7SFG(A) to determine the color and type of marking such as flagging tape to be used for avoidance.
 - (2) Consult with 7SFG(A) and the SHPO to select an avoidance symbol to be used for signage.
 - (3) Consult with 7SFGA to select a suitable paint color to be used for avoidance.
 - (4) Consult with SHPO and 7SFG (A) to determine what permanent barriers can be used and how they should be installed so as to avoid affecting historic properties
 - (5) Provide 7SFG (A) with copies of the maps identifying all avoided sites and buildings, submitted in a form useful to 7SFG(A), and will periodically update these maps as needed. A copy of the maps and any updates will also be provided to the SHPO with a written description of the avoidance measures used for each historic property.
 - (6) Periodically brief appropriate 7SFG(A) staff on the importance of protecting cultural resources, the sensitivity of cultural resources data, and the need to limit access to this data.

2. Archaeological Data Recovery

All archaeological data recovery shall be conducted by a professional meeting the qualification standards in Stipulation V. The data recovery will be carried out following the Secretary of the Interior's Standard and Guidelines for Archaeology and Historic Preservation included herein by reference. Eglin AFB will ensure that archaeological data recovery is conducted in the following manner.

- (a) A data recovery plan shall be prepared. At a minimum, the data recovery plan shall include:
 - (1) A description of the proposed action that will adversely affect archaeological sites
 - (2) A description of each archaeological site and how each may be affected by the proposed action
 - (3) A set of research questions and objectives
 - (4) A description of methods to be used in collecting the data needed to address the research questions
 - (5) A description of analytical techniques to be used in addressing the research questions
 - (6) A description of the nature of materials and features expected to be revealed, materials expected to be collected, and all other materials to be generated including reports and associated media.
- (b) Eglin AFB shall submit the data recovery plan to SHPO for 30 day review. If the archaeological site is prehistoric, Eglin AFB shall also submit the data recovery plan to the tribes for 30 day review. The tribal review will be concurrent with the SHPO review.
- (c) If the SHPO or one or more of the tribes, as applicable, does not respond within 30 days of submittal, Eglin AFB shall assume that party has no objection to the proposed data recovery. Eglin AFB, in completing the data recovery plan, will take into account any comments it does receive from the SHPO or the tribes within the 30-day review period.
- (d) Once Eglin AFB has completed the data recovery plan, it shall ensure that the data recovery is conducted in accordance with the plan.
- (e) All archaeological data recovery shall be reported within 12 months of the end of field work. Eglin AFB shall ensure that a draft of the report is prepared and will submit the draft to SHPO and the tribes, as applicable, for 30 day review. Any comments received by Eglin AFB from SHPO or any of the tribes, as applicable,

within the review period shall be considered in completing the report. Eglin AFB shall provide the SHPO and the tribes with two copies of any final report.

3. Architectural Treatment

All architectural treatment shall be conducted by a professional who meets the qualification standards in Stipulation V. The architectural treatment will be carried out following the Secretary of the Interior's Guidelines for Architectural and Engineering Documentation (HABS/HAER Level II) included herein by reference. Eglin AFB will ensure that architectural treatment is conducted in the following manner.

- (a) A treatment plan, including a scope of work, will be prepared describing in detail the proposed treatment. The treatment plan shall at a minimum include
 - (1) A description of the proposed action that will adversely affect historic buildings or structures
 - (2) A description of each building or structure and how each may be affected by the proposed action
 - (3) A set of research questions and recording objectives
 - (4) A description of methods to be used in collecting data needed to achieve the research questions and recording objectives
- (b) Eglin AFB shall submit the treatment plan to SHPO for 30 day review.
- (c) If the SHPO does not respond within 30 days of submittal, Eglin AFB shall assume the SHPO has no objection to the proposed treatment plan. Eglin AFB, in completing the treatment plan, will take into account any comments it does receive from the SHPO within the 30-day review period.
- (d) Once the treatment plan is completed, Eglin AFB shall ensure that the treatment is conducted in accordance with the plan.
- (e) All architectural treatment shall be reported within 12 months of the end of field work. Eglin AFB shall ensure that a draft treatment report is prepared and will submit the draft to SHPO for 30 day review. Any comments received by Eglin AFB from SHPO within the review period shall be considered in completing the report. Eglin AFB shall provide the SHPO with two copies of any final report.

4. Alternative Mitigation

If Eglin AFB determines that resolution of adverse effects can best be achieved through means other than archaeological data recovery or architectural treatment, as presented in Stipulation III.E.2 and III.E.3 above, it may adopt an alternative mitigation strategy on a

case-by-case basis as presented below. All alternative mitigation shall be conducted by a professional meeting the qualification standards in Stipulation V.

- (a) If the alternative mitigation will apply to historic buildings and structures or historic archaeological sites, Eglin AFB will submit a mitigation plan to the SHPO for 30 day review. Eglin AFB shall take into consideration any comments it receives from the SHPO during the 30 day review period. If the SHPO does not respond within the 30-day review period, Eglin AFB shall assume the SHPO has no objection to the alternative mitigation.
- (b) If the alternative mitigation will apply to prehistoric archaeological sites, or historic archaeological sites with a prehistoric component, Eglin AFB will submit a mitigation plan to the SHPO and the tribes for 30 day review. Tribal review will be concurrent with SHPO review. Eglin AFB shall take into consideration any comments it receives from the SHPO or any one of the tribes during the 30 day review period. If the SHPO, or one or more of the tribes, do not respond within the 30-day review period, Eglin AFB shall assume that party has no objection to the alternative mitigation.
- (c) All alternative mitigation shall be reported within 12 months of the end of field work. Eglin AFB shall ensure that a draft of the report is prepared and will submit the draft to SHPO and the tribes, as applicable, for 30 day review. Any comments received by Eglin AFB from SHPO or any of the tribes, as applicable, within the review period shall be considered in completing the report. Eglin AFB shall provide the SHPO and the tribes each with two copies of any final report.

IV. Joint Strike Fighter

- A. The APE for the JSF component is shown on the map in Appendix D and consists of the following elements
 1. The Cantonment area
 2. Air Fields: Eglin Field, Choctaw Field, Duke Field
 3. Bombing ranges (B-75, B-82, C-52E, C-62)

B. Identification and Eligibility

Eglin AFB, in consultation with the SHPO, has determined that historic properties are present within the JSF portion of the APE. The results of identification and NRHP determinations are summarized below.

1. Cantonment
 - (a) One cultural resources survey has been conducted within the 230-acre APE for the JSF Cantonment. No archaeological sites have been recorded. Much of the Cantonment area is heavily disturbed due to intensive development. Eglin AFB, in

consultation with the SHPO, has determined that no additional archaeological survey is warranted and no survey will be conducted within the JSF Cantonment area for the BRAC undertaking.

- (b) The JSF Cantonment contains one NRHP eligible historic district. The Strategic Air Command (SAC) Historic District, as defined, contains three separate areas consisting of: (1) A “Christmas tree” alert apron; (2) an alert support area that housed squadron operations and intelligence; and, (3) a weapons storage area for the Hound Dog nuclear cruise missile and the Quail decoy missile. The SAC Alert Historic District consists of 20 buildings and structures and two small parking aprons (See map of historic district and a list of buildings and structures, Appendix E). Of these properties, 18 contribute to the NRHP eligibility of the district (contributing) and four do not contribute to its eligibility (noncontributing).
2. Aerial Bombing Ranges
- (a) JSF fighter training will use four existing bombing ranges (Test Areas B-75, C-62, C52E and B-82). Inventory of all intact and safely accessible portions of Test Areas B-82, B-75 and C-62 are complete. Those areas of these ranges that are heavily disturbed or contain unexploded ordinance have not been surveyed for cultural resources. Test Area C-62 has nine archaeological sites, seven of which Eglin AFB has determined, in consultation with SHPO, are not NRHP eligible. Two archaeological sites are potentially eligible for NRHP listing. Test Area C-52E has 25 recorded archaeological sites within it. Eglin AFB has determined, in consultation with SHPO, that 21 of these sites are not NRHP eligible, three are potentially eligible for listing and one is NRHP eligible (List of NRHP eligible and potentially eligible archaeological sites by bombing range, Appendix F).
 - (b) Additional survey is needed to complete the identification phase for the JSF bombing ranges in Test Areas C-52E. Eglin AFB shall ensure that all surveys are conducted by a professional meeting the qualification standards in Stipulation V. The surveys will be carried out following the Secretary of the Interior’s Standards and Guideline for Archaeology and Historic Preservation, included herein by reference.
 - (c) Eglin AFB shall submit survey reports to SHPO for review and shall determine NRHP eligibility of any reported archaeological sites or historic buildings or structures following the procedures for NRHP eligibility determinations in Stipulation III.C above.
3. Air Fields: Eglin Field, Choctaw Field, Duke Field.
- (a) The Air Force will select one of two alternative plans for air field use involving three existing air fields at Eglin AFB: Eglin Field, Choctaw Field and Duke Field. The potential for adverse effect is the same for both alternatives. There are no historic buildings or structures at either Choctaw Field or Duke Field and no effects will occur at these air fields as part of the BRAC undertaking. In addition to the SAC Alert

Historic District, there are three historic districts within Eglin Field. These are the Eglin Field Historic District with 20 contributing properties, the Warehouse Historic District with four contributing properties, and the Marine Operations Historic District with three contributing properties. A fifth historic district, Camp Pinchot Historic District, with 20 contributing properties, is located outside of and separate from Eglin Field (See map of historic districts in relation to Eglin Field Appendix G)

- (b) There are 27 individually eligible historic buildings and structures within the Eglin Field area that are located within both JSF flight training alternatives (See map and list of individually eligible historic properties within Eglin Field Appendix H).

C. Assessment of Effects

The JSF component of the BRAC undertaking will involve demolition, renovation and construction within and adjacent to the SAC Alert Historic District; ground disturbance related to the operational use of the JSF bombing ranges containing NRHP eligible archaeological sites; and potential effects of aircraft noise on historic districts and individually eligible historic buildings and structures within Eglin Field. As such, the characteristics that make multiple historic properties eligible for listing on the NRHP will be altered in ways that diminish their integrity.

1. Cantonment

- (a) Five historic buildings within the SAC Alert Historic District will be demolished: Buildings 1339, 1343, 1345, 1352, and 1353 in Area 2. Demolition of these buildings will adversely affect integrity of design, setting, materials, workmanship and possibly feeling and association.
- (b) Buildings 1315, 1321, 1326, 1328, 1344, in Area 2 will be renovated as part of the proposed development; however, these renovations will be limited to the buildings' interiors and will not adversely affect their character defining features. Therefore, these buildings will not be subject to treatment.
- (c) The undertaking will result in new construction on undeveloped land adjacent to Area 2 and on developed land within, Area 2 of the SAC Alert Historic District. There are no known archaeological sites within the Cantonment APE. Should archaeological deposits be discovered during construction, however, Eglin AFB will follow the provisions for unexpected discoveries in Stipulation VI.

2. Aerial Bombing Ranges

The use of air-to-ground ordinance will result in ground disturbance in areas that are known to contain NRHP eligible or potentially eligible archaeological sites. These actions will adversely affect the integrity of location and materials.

3. Air Fields

- (a) Flight training will result in over-flights of NRHP eligible historic districts and individually eligible buildings and structures in proximity to Eglin Field. Current noise levels at Eglin Field range from 65 to 85 decibels. Aircraft noise in excess of 85 decibels is expected as a result of the BRAC undertaking affecting a larger area within Eglin Field than at present (see map of historic districts and individually eligible buildings at Eglin Field in relation to the projected noise contour zones in Appendix I).
- (b) If increased aircraft noise will result in the abandonment of a building or structure that is either a contributing property to a historic district or is individually eligible, and use of the building is no longer viable thereby threatening loss of its physical integrity, then the undertaking will have an adverse effect.

D. Resolution of Adverse Effects

Eglin AFB shall resolve the adverse effects of the BRAC undertaking on the JSF component following the procedures presented below.

1. Cantonment

- (a) Eglin AFB will resolve the anticipated adverse effects of demolition on buildings 1339, 1343, 1345, 1352, and 1353 in the following manner.
 - (1) Update SHPO-approved site forms for each structure in all three areas of the SAC Alert Historic District.
 - (2) Complete a SHPO-approved Resource Group Form for the district as a whole.
 - (3) Digitally photograph in color all elevations of each building planned for demolition using a digital camera of 5 megapixels or greater resolution. All photographs will meet the Florida Master Site File photographic documentation requirements issued by the SHPO.
 - (4) Compile an electronic copy of the floor plans for each building planned for demolition to be stored on a CD or other suitable archival quality media.
 - (5) Prepare a technical report containing the results of tasks 1-4, as well as a comprehensive history of the SAC Alert program and Eglin's role in the SAC mission.
 - (6) Prepare an educational booklet designed for the general public summarizing the history of the SAC Alert program and Eglin's role in the SAC mission

- (b) As stipulated in Section 8.C. of the 2003 PA, Eglin AFB will, prior to the approval of demolition and in consultation with SHPO, identify and where appropriate salvage any character-defining historic interior or exterior features of the buildings to be demolished, when such salvage is reasonable, feasible and prudent.
 - (c) Once tasks (1) through (3), as described in Stipulation IV.D.1.(a) above, have been completed, Eglin AFB may proceed with the development, as needed. Tasks (4) through (6) shall be completed within 12 months of completing Tasks (1) through (3).
 - (d) All treatment shall be carried out by a professional meeting the qualification standards in Stipulation V.
 - (e) Draft copies of all reports and other documentation prepared pursuant to Stipulation IV.D.1 (a) above will be submitted to SHPO for a 30-day review. If the SHPO does not respond within 30 days, Eglin AFB will assume the SHPO has no objection to the documents as drafted. In completing the draft documents, Eglin AFB will take into account any comments it receives from the SHPO within the 30-day review period. Final copies of all materials will be submitted to the SHPO and the Florida State Archives. Eglin AFB will make available to the public copies of the final report and the educational booklet upon request
2. Bombing Ranges
- (a) All archaeological sites that are either determined NRHP eligible or are potentially eligible to the NRHP shall, whenever possible, be avoided and preserved in place following the avoidance procedures in Stipulation III.E.1 (a) through (c).
 - (b) To ensure that avoidance is achieved in a consistent and coordinated manner, Eglin AFB shall consult with JSF to determine which of the avoidance measures identified in Stipulation III.E.1 are best utilized to achieve avoidance. If some other measure better achieves avoidance for the purpose of JSF use of the bombing ranges, then Eglin AFB, in consultation with SHPO, shall utilize that measure. Eglin AFB shall provide JSF with copies of the maps identifying all avoided sites and buildings, submitted in a form useful to JSF, and will periodically update these maps as needed. A copy of the maps and any updates will also be provided to the SHPO with a description of the avoidance measures used for each historic property. Periodically, Eglin AFB shall brief appropriate JSF staff on the importance of protecting cultural resources, the sensitivity of cultural resources data, and the need to limit access to this data.
 - (c) If avoidance is not possible or desirable, Eglin AFB will, as needed, make a determination of NRHP eligibility in accordance with Stipulation III.C. Any NRHP eligible archaeological site or historic building or structure identified within the bombing ranges that cannot be protected through avoidance will be adversely affected by the undertaking. Eglin AFB shall coordinate with JSF and follow the procedures in Stipulation III.E.2 through III.E.4, as applicable, to resolve the adverse effects

3. Air Fields

If, as a result of increased aircraft noise, Eglin AFB proposes to abandon buildings or structures that either contribute to the NRHP eligibility of the SAC Alert Historic District, the Eglin Field Historic District, the Warehouse Historic District, or the Marine Operations Historic District, or any one of the individually eligible historic buildings or structures, then prior to abandonment, Eglin AFB shall consult with SHPO regarding treatment of adverse effect and may enter into a Memorandum of Agreement for that purpose.

V. Qualifications

Eglin AFB shall ensure that all investigations performed in compliance with the terms of this PA shall be conducted by, or under the supervision of, a person who meets the Secretary of the Interior's Standards and Guidelines for professional qualifications in history, architecture, architectural history, historic architecture or archaeology, as applicable, described in the Federal Register: June 20, 1997 (Volume 62, Number 119, pages 33707-33723).

VI. Unanticipated Discoveries

- A. If a previously unknown archaeological site is discovered during the undertaking, or an unanticipated effect to a known archaeological site, historic building or structure is discovered during the undertaking, then Eglin AFB shall resolve the discovery in the following manner.
1. All disturbance of buildings, structures or ground surfaces, as applicable, in the vicinity of the discovery shall cease and the discovery location will be secured from further harm.
 2. A qualified professional, meeting the qualification standards of Stipulation V, shall record the discovery and evaluate its nature, extent, condition, and NRHP eligibility.
 3. Eglin AFB shall consult with SHPO on the eligibility of the discovery and the potential effect of continued development within two working days of the discovery.
 4. If, in consultation with SHPO, the Eglin AFB determines that the discovery is NRHP eligible and that treatment is warranted, Eglin AFB shall conduct treatment following the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation. All treatment will be completed within seven working days of the discovery.

VII. Human Remains

- A. If human remains and associated funerary objects are discovered during the undertaking, Eglin AFB shall resolve the discovery in the following manner.

1. All ground disturbing activity in the vicinity of the discovery shall cease and the discovery location will be secured from further harm until resolved.
2. A professional, meeting the qualification standards of Stipulation V, records the discovery and evaluate its nature, extent, and condition.
3. If Eglin AFB determines the human remains are Native American, it shall consult with appropriate tribe or tribes in accordance with 43 CFR Part 10, the regulations implementing the Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. 3001 et seq.).
4. If Eglin AFB determines the human remains are not Native American, or the identity of the human remains is undetermined, Eglin AFB will consult with SHPO and the Florida State Archaeologist pursuant to either 36 CFR Part 800 or the Florida Unmarked Burial Law Chapter 872, Florida Statutes, as applicable, to resolve the discovery. If subsequently, the remains are identified as Native American, Eglin AFB will consult with the tribes pursuant to NAGPRA.

VIII. Emergencies

In the event of an emergency declared by the President of the United States or the Governor of the State of Florida, pursuant to 36 CFR Part 800.12, the following emergency actions are exempted from further consideration under this PA.

- A. Protection of the human health and/or the environment from damage of harm by hydrocarbon or hazardous waste.
- B. Prevention of imminent damage resulting from the threat of hurricane, tornado or other natural disasters.
- C. Stabilization necessitated by the threat of imminent structural failure (e.g. repair of replacement of building footings)
- D. Actions waived from the usual procedures of Section 106 compliance, pursuant to 36 CFR 800.12 (d).

IX. Dispute Resolution

Should any of the signatories object within 30 days to any action implementing this agreement, Eglin AFB will consult with the objecting party to resolve the objection. If Eglin AFB determines that the disagreement cannot be resolved, Eglin AFB will request further comment from the ACHP in accordance with the applicable provisions of 36 CFR Part 800.7. Eglin AFB will, in accordance with 36 CFR Part 800.7 (c) (4), take any ACHP comment into account with reference only to the subject of the dispute. Eglin AFB's responsibility to carry out all actions under this agreement that is not the subject of the dispute will remain unchanged.

X. Amendments

Any signatory to this agreement may request that the agreement be amended, whereupon the other parties will consult to consider such amendment. Where there is no consensus among the signatories, the agreement will remain unchanged.

XI. Termination

Any signatory to this agreement may revoke it upon written notification to the other parties by providing thirty (30) days notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, Eglin AFB will comply with 36 CFR Parts 800.3 through 800.6 with regard to individual aspects of the undertaking covered by this agreement.

XII. Biennial Review

Every two years following the execution of this PA, for as long as the PA is in effect, Eglin AFB will meet with the 7SFG(A), JSF, the SHPO and the tribes to evaluate the effectiveness of the PA. At that time, the parties will discuss whether or not the PA is functioning as intended and whether the PA needs to be amended in accordance with Stipulation X to correct and improve its effectiveness.

XIII. Renewal

Every 10 years following the execution of this PA, for as long as the PA is in effect, or unless and until this PA is superseded by another agreement, Eglin AFB will consult with the signatory parties to consider renewal of the PA for another ten year period. The PA will be renewed in its existing form as of the date of the renewal, renewed with amendments or terminated. Renewal shall be indicated by the signatures of all the signatory parties to a new set of signature pages, which Eglin AFB will add to the PA. The old signatures will be left in place. Eglin AFB shall distribute a new copy of the PA with the added signatures to all the signatory parties for their records.

XIV. Execution

Execution and implementation of this agreement evidences that Eglin AFB has satisfied its responsibilities under Section 106 of the NHPA for the Base Realignment and Closure undertaking at Eglin AFB.

EGLIN AIR FORCE BASE

By: _____ Date: _____

SEVENTH SPECIAL FORCES GROUP (AIRBORNE)

By: _____ Date: _____

JOINT STRIKE FIGHTER PROGRAM

By: _____ Date: _____

FLORIDA STATE HISTORIC PRESERVATION OFFICER

By: _____ Date: _____

Concurring Parties:

MICCOSUKEE TRIBE OF INDIANS OF FLORIDA

By: _____ Date: _____

THE SEMINOLE TRIBE OF FLORIDA

By: _____ Date: _____

POARCH BAND OF CREEK INDIANS OF ALABAMA

By: _____ Date: _____

MUSKOGEE (CREEK) NATION OF OKLAHOMA

By: _____ Date: _____

SAC MEMORIAL PROJECT

By: _____ Date: _____

References

Eglin Air Force Base

- 2003 “Programmatic Agreement Between the Air Armament Center, Eglin Air Force Base, the Advisory Council on Historic Preservation and The Florida State Historic Preservation Officer Regarding the Preservation and Protection of Historic and Archaeological Resources Located at Eglin Air Force Base, Florida,” executed February 14, 2003. Document on file at Eglin Air Force Base, Florida.

Eglin Air Force Base

- 2006 “Eglin Air Force Base Integrated Cultural Resources Management Plan Implementation, Eglin AFB, Okaloosa, Santa Rosa and Walton Counties, Florida.” Manuscript on file at Eglin Air Force Base, Florida. Final, February, 2006.

Thomas, Prentice M. Jr., and L. Janice Campbell (editors)

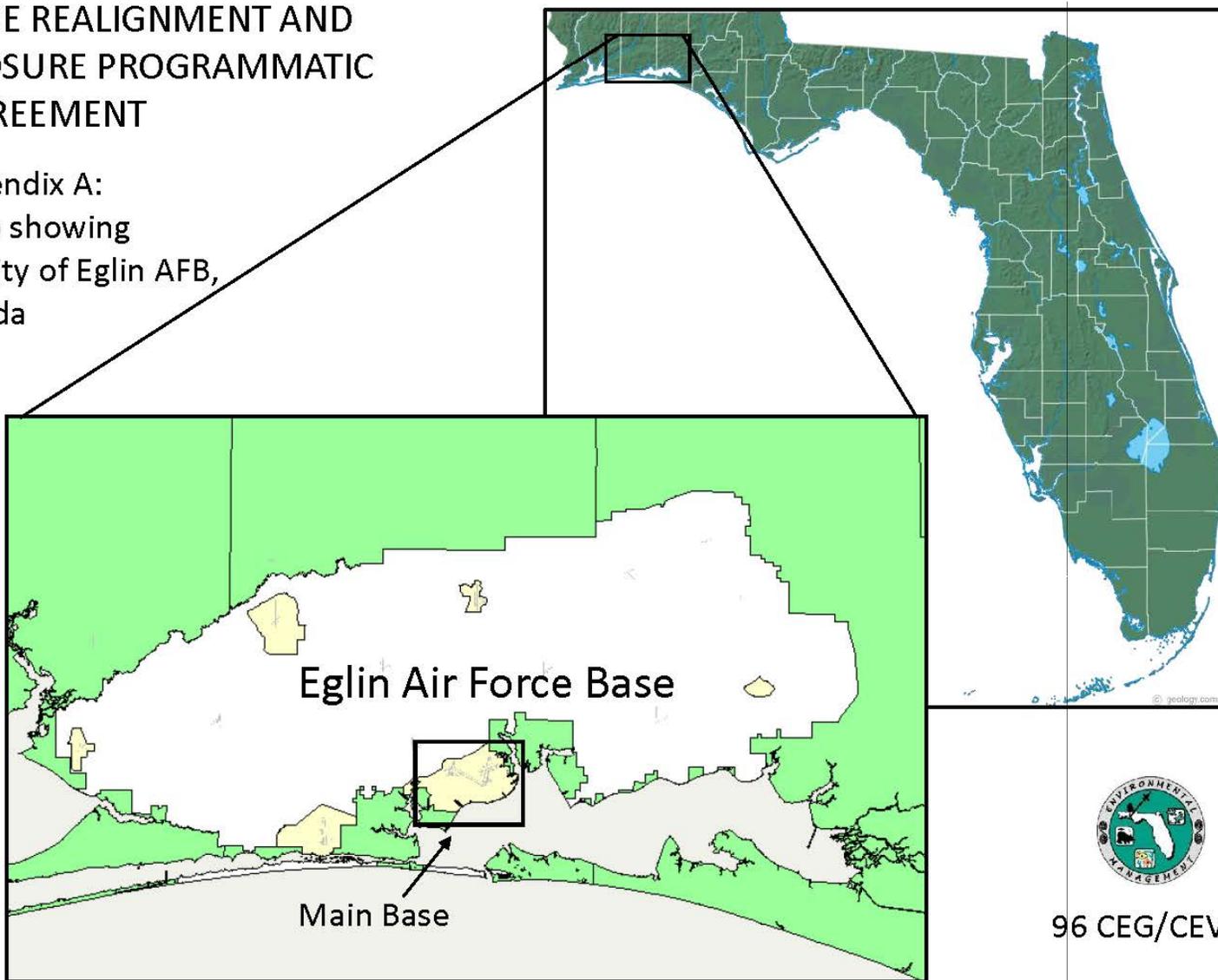
- 1993 “Eglin Air Force Base Historic Preservation Plan: Technical Synthesis of Cultural Resources Investigations at Eglin, Santa Rosa, Okaloosa and Walton Counties, Florida,” New World Research, Inc., Report of Investigations 192. Report on file at Eglin Air Force Base, Florida.

Appendices

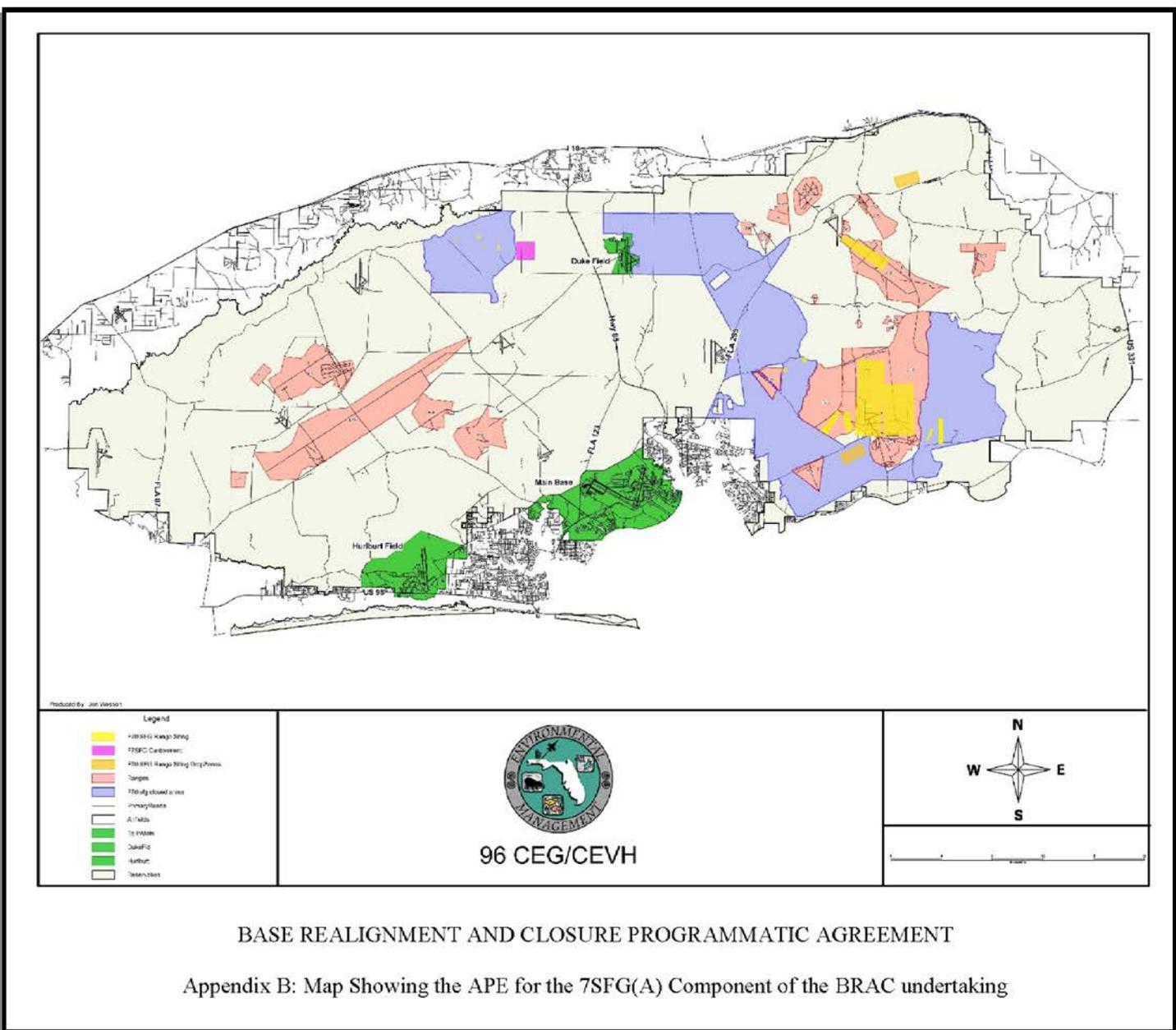
- A: Map showing vicinity of Eglin AFB, Florida
- B: Map showing the APE for the 7SFG(A) component of the BRAC undertaking
- C: List of archaeological sites and buildings located within the 7SFG (A) APE that have been determined to be NRHP eligible or potentially eligible
- D: Map showing the APE for the JSF component of the BRAC undertaking
- E: Map of SAC Alert Historic District and list of contributing buildings and structures
- F: List of archaeological sites located within the JSF bombing ranges that have been determined to be NRHP eligible or potentially eligible.
- G: Map of historic districts in relation to Eglin Field
- H: Map and list of historic properties within Eglin Field that are individually NRHP eligible
- I: Map of historic districts and individually eligible historic properties at Eglin Field in relation to projected decibel contour zones

BASE REALIGNMENT AND CLOSURE PROGRAMMATIC AGREEMENT

Appendix A:
Map showing vicinity of Eglin AFB, Florida



96 CEG/CEVH



BASE REALIGNMENT AND CLOSURE PROGRAMMATIC AGREEMENT

Appendix C: List of Archaeological Sites and Buildings Located Within the 7SFG(A) APE That Have Been Determined to be NRHP Eligible or Potentially Eligible

Sites in 7SFG(A) Closed Area: 40 potential arch sites, 2 eligible arch sites, and 2 potentially eligible buildings

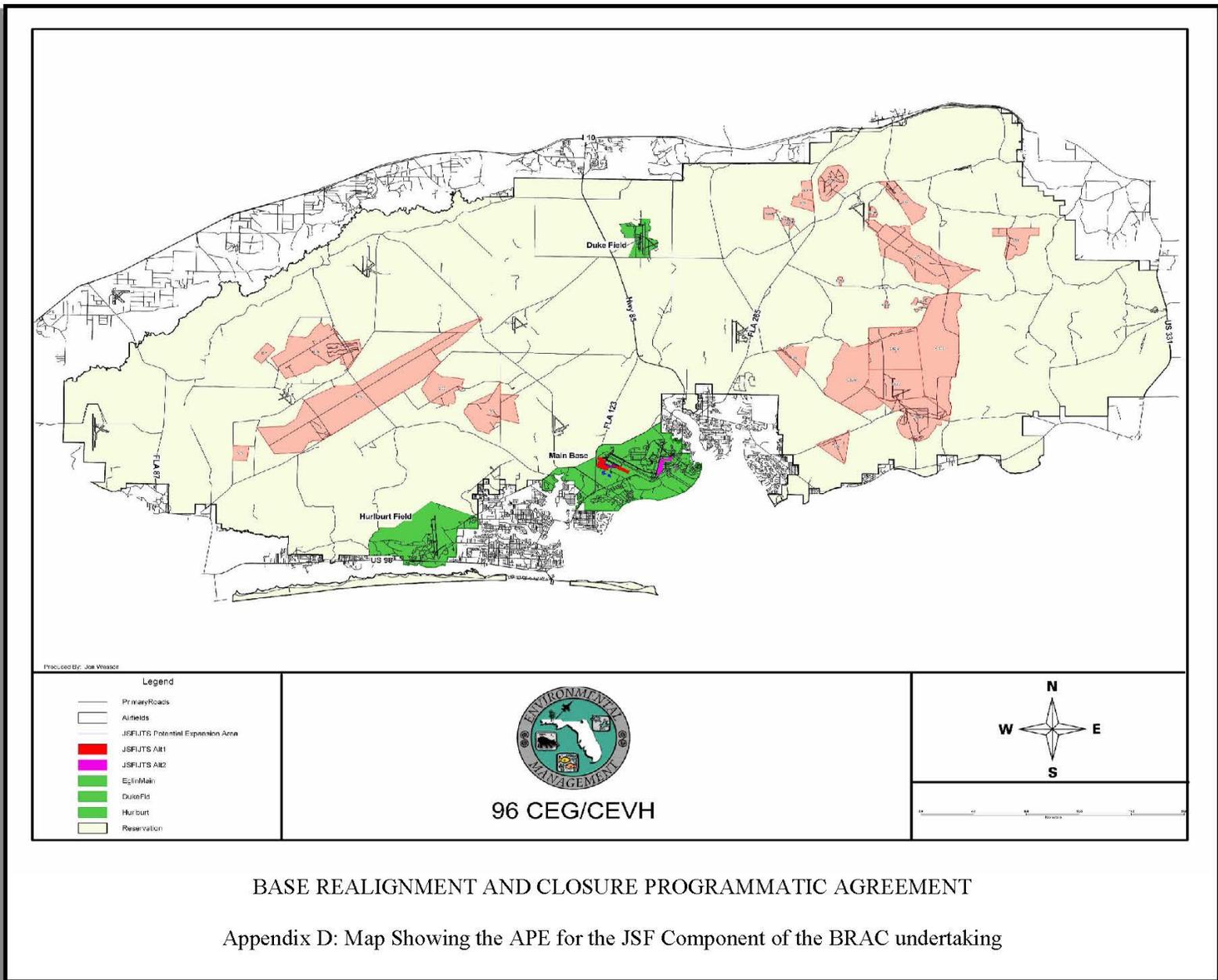
| Site ID | Survey Area | Class | Type | Status |
|----------|-------------|----------------------|--|-----------|
| 8OK00900 | X-336 | Historic | This site represents an early 20th century turpentine still site. | Potential |
| 8OK00149 | X-367 | Prehistoric/Historic | Along with the historic component, including turpentine community structures and associated features, a single prehistoric flake of indeterminate age was recovered in Test Unit 4. | Potential |
| 8WL01395 | X-378W | Prehistoric/Historic | Artifact scatters | Potential |
| 8WL01416 | X-378W | Prehistoric | Artifact scatters | Potential |
| 8OK01220 | X-401 | Prehistoric/Historic | Prehistoric and Historic scatters | Potential |
| 8OK01221 | X-401 | Historic | Early 20th century homestead of William A. Carr Sr. and family | Potential |
| 8OK00402 | X-404 | Prehistoric | | Eligible |
| 8OK01226 | X-405 | Prehistoric | Deptford and Santa Rosa Swift Creek components | Potential |
| 8WL01681 | X-433 | Historic | Historic scatter | Potential |
| 8WL01486 | X-453 | Historic | Possible naval stores side camp | Potential |
| 8WL00196 | X-472 | Prehistoric | Prehistoric site | Potential |
| 8WL01803 | X-472 | Prehistoric | Deptford, Santa Rosa-Swift Creek, Weeden Island | Potential |
| 8WL01516 | X-474 | Historic | | Potential |
| 8WL00191 | X-494 | Prehistoric | Probably contains Weeden Island and earlier components | Eligible |
| 8WL01546 | X-495 | Prehistoric | | Potential |
| 8WL01659 | X-505 | Prehistoric | | Potential |
| 8WL01661 | X-516 | Historic | | Potential |
| 8WL01753 | X-556 | Prehistoric | Possibly a small village | Potential |
| 8OK01698 | X-562 | Historic | | Potential |
| 8OK01818 | X-596 | Prehistoric | | Potential |
| 8OK02127 | X-667 | Historic | Late 19th to early 20th century homestead of Charles H. Collum | Potential |
| 8OK02133 | X-668 | Historic | Late 19th to early 20th century | Potential |
| 8WL01991 | X-711 | Prehistoric | Weeden Island, Santa Rosa, Swift Creek | Potential |
| 8WL02011 | X-711 | Prehistoric/Historic | | Potential |
| 8WL02017 | X-713 | Prehistoric | Weeden Island | Potential |
| 8WL02016 | X-715 | Prehistoric/Historic | Weeden Island and 20th century homestead. | Potential |
| 8OK02483 | X-821 | Historic | Early to middle 20th century | Potential |
| 8OK02485 | X-824 | Prehistoric | Weeden Island, Fort Walton, Pensacola | Potential |
| 8WL02178 | X-870 | Prehistoric | | Potential |
| 8OK02591 | X-882 | Historic | | Potential |
| 8OK00433 | X-885 | Prehistoric | | Potential |
| 8OK00434 | X-885 | Prehistoric | | Potential |
| 8OK00435 | X-885 | Prehistoric | | Potential |
| 8OK02621 | X-885 | Prehistoric | | Potential |
| 8OK02622 | X-885 | Prehistoric | | Potential |
| 8WL00305 | X-916 | Prehistoric/Historic | Indeterminate prehistoric lithic scatter and historic homestead of John Sanders | Potential |
| 8OK00256 | X-930 | Prehistoric | | Potential |
| 8OK00255 | X-942 | Prehistoric | | Potential |
| 8OK02635 | X-945 | Prehistoric | | Potential |
| 8WL02253 | X-951 | Prehistoric | Gulf Formational Elliotts Point | Potential |
| 8OK02637 | X-963 | Prehistoric | Prehistoric indeterminate lithic scatter possible Paleoindian or Archaic with Woodland ceramic | Potential |
| 8OK02639 | X-963 | Prehistoric | Prehistoric indeterminate lithic scatter | Potential |
| 8OK02572 | MS-1 | Structure | Emergency Landing Strip - Contributing member of a recommended Range 53 district. Significant under Criterion A for the testing of air-to-ground rockets such as the 5-inch HVAR and the 2.75-inch FFAR. | Eligible |
| 8OK02546 | MS-2 | Structure | Moving Target - Contributing member of a recommended Range 53 District, as well as individually eligible under Criterion C because it is one of only two moving targets built at Eglin AFB in the 1950s | Eligible |

Sites in Group 2 Range Footprints: 11 potential arch sites and 4 potentially eligible buildings

| Site ID | Survey Area | Class | Type | Status |
|----------|-------------|-------------|--|-----------|
| 8WL02226 | X-918 | | | Potential |
| 8WL02227 | X-918 | | | Potential |
| 8WL02229 | X-915 | Historic | American 20th Century John W. Gladwell Homestead | Potential |
| 8WL02231 | X-912 | Prehistoric | Weeden Island site | Potential |
| 8WL02232 | X-912 | Prehistoric | Indeterminate lithic component with deep deposits, possibly indicative of early, pre-ceramic activity | Potential |
| 8WL02233 | X-912 | Prehistoric | Archaic Wacissa point, a fiber-tempered sherd, and other lithics | Potential |
| 8WL02246 | X-914 | Prehistoric | Gulf Formational, Santa Rosa, Swift Creek, Elliots Point, Weeden Island | Potential |
| 8WL02248 | X-914 | Prehistoric | | Potential |
| 8WL02250 | X-914 | Prehistoric | | Potential |
| 8WL02251 | X-914 | Prehistoric | | Potential |
| 8WL02258 | X-913 | Prehistoric | Weeden Island site that may be a series of station camps or a hamlet; it contains a quantity of well-executed ceramics, and the lithic assemblage includes the unusual find of a blocky core | Potential |
| 8WL02192 | Bldg 9502 | Building | | Eligible |
| 8WL02193 | Bldg 9503 | Building | | Eligible |
| 8WL01436 | Bldg 9504 | Building | | Eligible |
| 8WL01523 | C-72 VT | Building | | Eligible |
| 8WL02315 | Crossbow 15 | Building | Contributing member of Operation Crossbow District: awaiting concurrence from SHPO | Potential |
| 8WL02314 | Crossbow 16 | Building | Contributing member of Operation Crossbow District: awaiting concurrence from SHPO | Potential |
| | TT-05 | Building | German Industrial Target: scheduled to be evaluated summer 2008 | Potential |

Sites in Drop Zones: 1 potentially eligible arch site

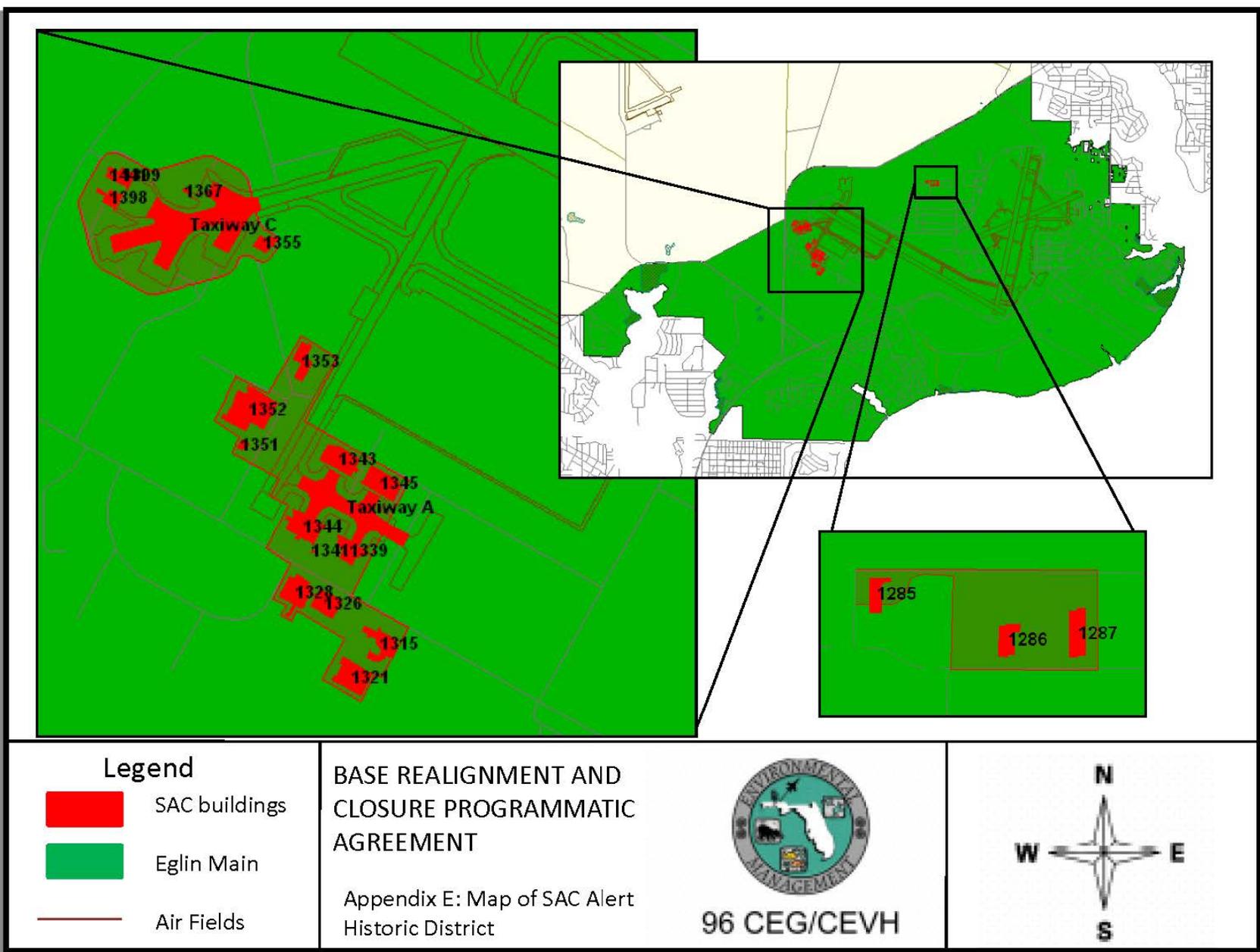
| Site ID | Survey Area | Class | Type | Status |
|----------|-------------|-------------|--------------------------------|-----------|
| 8WL02253 | X-951 | Prehistoric | Gulf Formational Elliots Point | Potential |



BASE REALIGNMENT AND CLOSURE PROGRAMMATIC AGREEMENT

Appendix E: List of Buildings and Structures at the SAC Alert Historic District

| Area | Property | Description | Eligibility | Effect |
|------|---------------|--|------------------|------------|
| | | | | |
| 1 | Building 1355 | alert ready crew quarters (Molehole) 1958 | Contributing | None |
| 1 | Building 1367 | aircraft maintenance control office 1978 | Non-contributing | |
| 1 | Building 1398 | hush house: 1989 | Non-contributing | |
| 1 | Building 1399 | hush house: 1989 | Non-contributing | |
| 1 | Building 1441 | general purpose aircraft maintenance 1989 | Non-contributing | |
| 1 | Taxiway C | five-stub Christmas Tree alert apron | Contributing | None |
| 2 | Building 1315 | squadron operations and target intel 1958 | Contributing | Renovation |
| 2 | Building 1321 | supply and equipment warehouse 1959-1960 | Contributing | Renovation |
| 2 | Building 1326 | general purpose shop 1958 | Contributing | Renovation |
| 2 | Building 1328 | armament and electronics shop 1958 | Contributing | Renovation |
| 2 | Building 1339 | fuel systems nose dock 1961 | Contributing | Demolition |
| 2 | Building 1341 | oil and grease storage | Contributing | None |
| 2 | Building 1343 | maintenance nose dock 1958 | Contributing | Demolition |
| 2 | Building 1344 | maintenance nose dock 1958 | Contributing | Renovation |
| 2 | Building 1345 | maintenance nose dock 1958 | Contributing | Demolition |
| 2 | Building 1351 | Quail run-up shop 1958 | Contributing | None |
| 2 | Building 1352 | Hound Dog/Quail service shop 1958 | Contributing | Demolition |
| 2 | Building 1353 | Hound Dog run-up shop 1958 | Contributing | Demolition |
| 2 | Taxiway A | five-stub maintenance apron | Contributing | None |
| 3 | Building 1285 | Hound Dog inspection and surveillance shop | Contributing | None |
| 3 | Building 1286 | Hound Dog multi-cubicle magazine 1958 | Contributing | None |
| 3 | Building 1287 | Hound Dog multi-cubicle magazine 1958 | Contributing | None |



BASE REALIGNMENT AND CLOSURE PROGRAMMATIC AGREEMENT

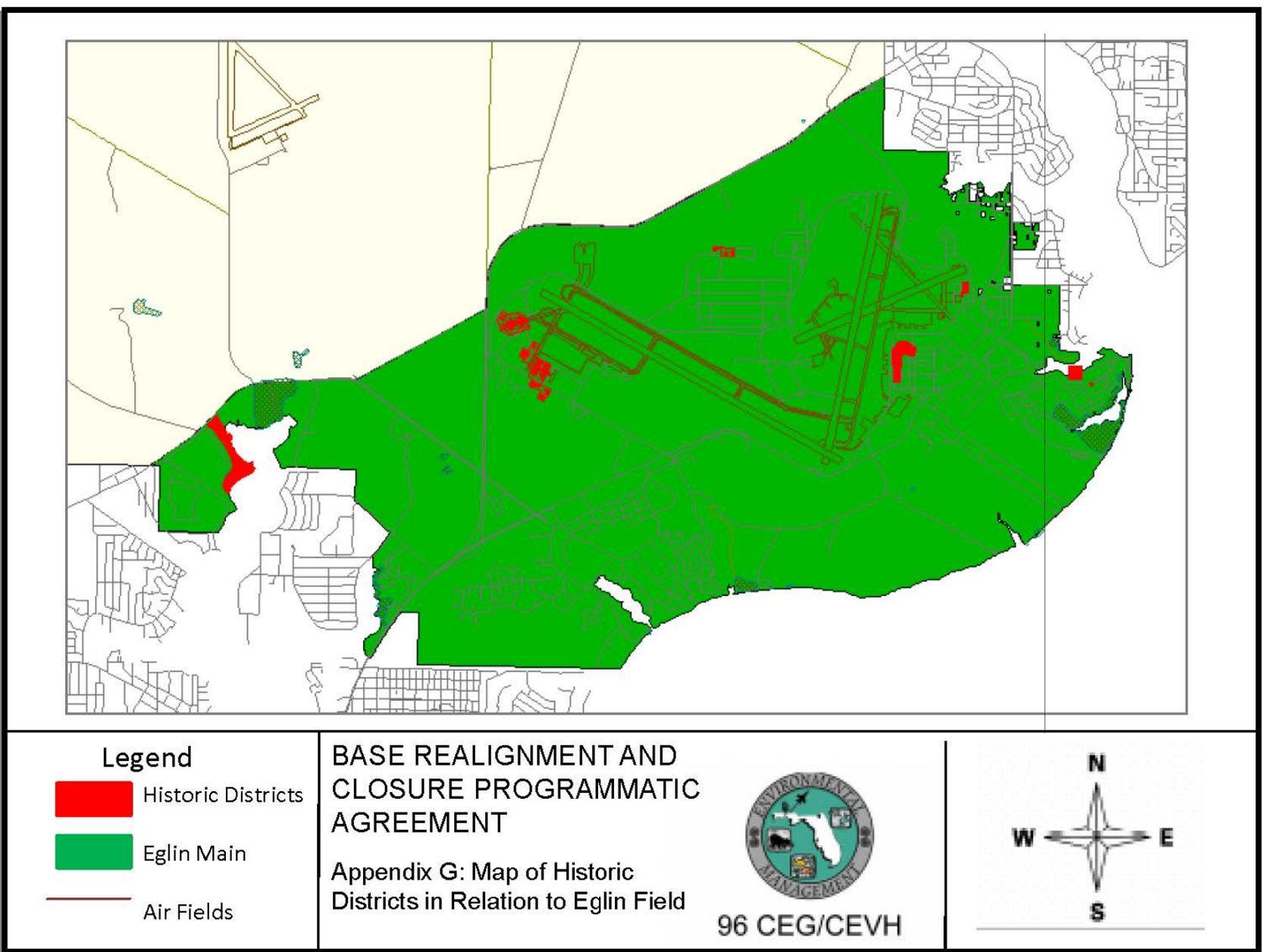
Appendix F: List of Archaeological Sites Located Within the JSF Bombing Ranges That Have Been Determined to be NRHP Eligible or Potentially Eligible

Sites in Test Area C-62: Two potentially eligible arch sites

| Site ID | Survey Area | Class | Type | Status |
|---------|-------------|-------------|---|-----------|
| 8WL2025 | X-617 | prehistoric | Early to middle Archaic and Weeden Island | Potential |
| 8WL2019 | X-618 | prehistoric | Late Archaic and Weeden Island | Potential |

Sites in Test Area C-52E: Three potentially eligible arch sites and one eligible site

| Site ID | Survey Area | Class | Type | Status |
|---------|-------------|-------------|---|-----------|
| 8WL2231 | X-912 | Prehistoirc | Weeden Island site | Potential |
| 8WL2232 | X-912 | Prehistoirc | Indeterminate lithic component with deep deposits, possibly indicative of early, pre-ceramic activity | Potential |
| 8WL2233 | X-912 | Prehistoirc | Archaic Wacissa point, a fiber-tempered sherd, and other lithics | Potential |
| 8WL1727 | X-468 | Prehistoirc | Late Paleoindian, Early Archaic, Bolen, Kirk, Weeden Island | Eligible |



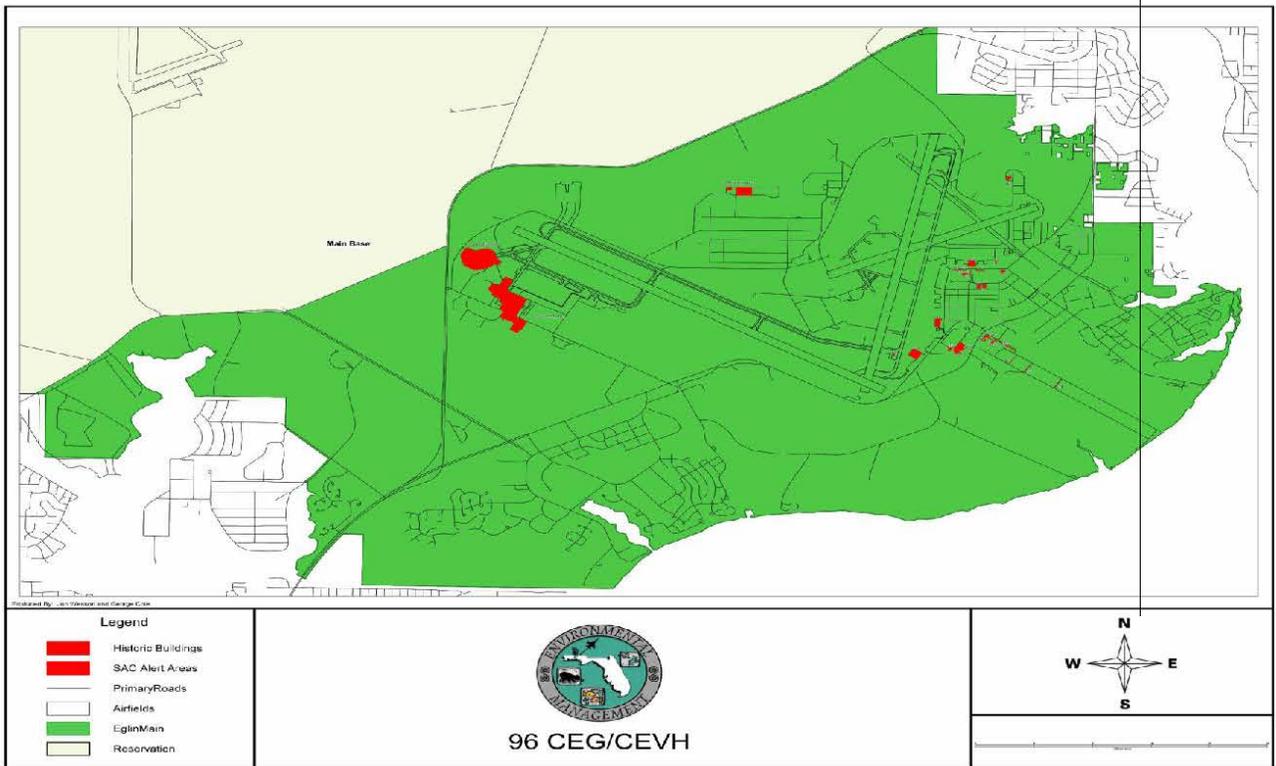
BASE REALIGNMENT AND CLOSURE PROGRAMMATIC AGREEMENT

Appendix H: List of historic properties within Eglin Field that are individually NRHP eligible

| Property | location | StatusCRM | narrative |
|----------|------------|-----------|---|
| 8 | Cantonment | Eligible | Building 8 was offices of the Air Corps Board responsible for establishing and communicating procedural guidelines for Eglin activities. Building is eligible on its own merit. |
| 10 | Cantonment | Eligible | Building 10 was offices of the Air Corps Board responsible for establishing and communicating procedural guidelines for Eglin activities. |
| 33 | Cantonment | Eligible | Building 33 retains integrity of location, setting, materials, feeling, and association. Alterations to 33 can be reversed. The building is eligible on its own merit. |
| 34 | Cantonment | Eligible | Building 34 retains integrity of location, setting, material, feeling, and association. The loss in the role of a flight simulator does not diminish the historical significance of the building. Building 34 is eligible for nomination to the NRHP. |
| 35 | Cantonment | Eligible | Building 35 retains integrity of location, setting, materials, design, feeling, and association. Building 35 reflects Eglin's role in WWII and is clearly significant. |
| 36 | Cantonment | Eligible | Building 36 retains integrity of location, setting, materials, design, feeling, and association. Building is significant under criteria A and C. |
| 37 | Cantonment | Eligible | Building 37 retains integrity of location, setting, materials, design, feeling, and association. Building 37 is eligible for nomination to the NRHP. |
| 40 | Cantonment | Eligible | Building 40 retains integrity of location, setting, materials, design, feeling, and association. Building 40 is eligible for nomination to the NRHP. |
| 44 | Cantonment | Eligible | Building 44 is eligible under Criteria A and C. Building 44 represents a unique type of design built to withstand enemy bombing and ground assaults. Building 44 was instrumental in the development of the Sperry and Norden gunsights. |
| 68 | Cantonment | Eligible | Hanger 68 is eligible for nomination to the NRHP. Hanger is moderately altered from its original design and is associated with significant historical events at Eglin under Criteria A. |
| 73 | Cantonment | Eligible | Building is eligible for the NRHP. Exterior structural integrity is excellent. Historic mission has not been completely defined but is significant. Building is an unusual example of specialized structure design. |

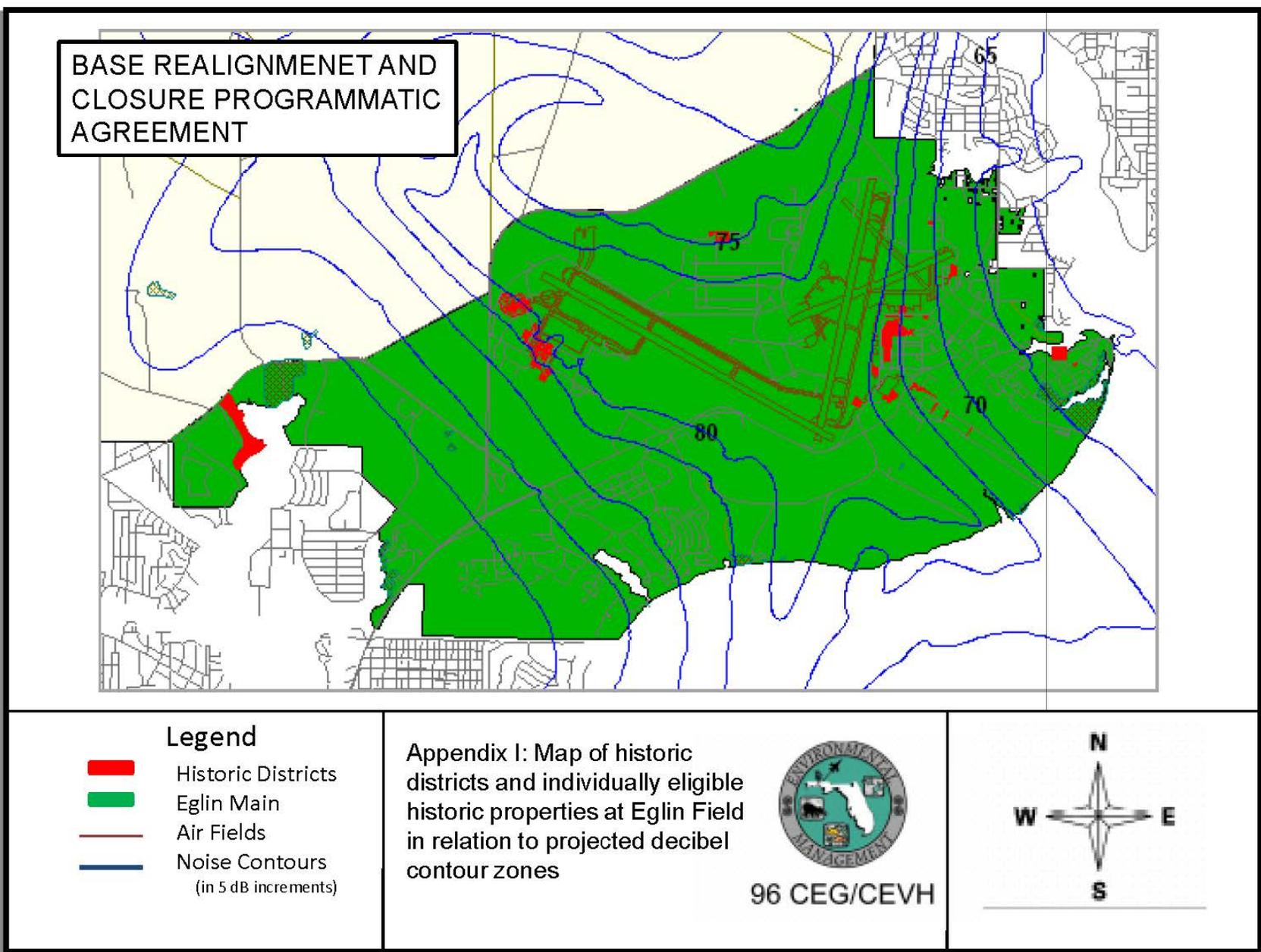
| Property | location | StatusCRM | narrative |
|----------|------------|-------------------|---|
| 110 | Cantonment | Eligible | Building 110 is eligible for nomination to the NRHP. It was an integral part of the Eglin AFB contributions to WWII and Col War history. Building 110 was designed by internationally renowned architect Fred N. Severud and is distinctive in design and architecture as a maintenance facility for the B-36 aircraft. |
| 123 | Cantonment | Eligible | Building appears to meet the criteria for listing on the NRHP under criteria A for military significance and Criteria C for its rare architecture. |
| 130 | Cantonment | Eligible | Hanger has sustained minor alterations. Structure is eligible for nomination to the NRHP under Criteria A and C. |
| 408 | Cantonment | Eligible | Building has sustained minor alterations. Building 408 is eligible for nomination under criterion A and C and is recommended a contributing member to the recommended Range 22 District. |
| 410 | Cantonment | Eligible | Building is moderately altered and is ineligible for NRHP individually but a possible contributing member to a small armament Test recommended Range 22 District inclusive of buildings 408, 410, 412, 413, 414, 420, 421, 423, and 440. |
| 412 | Cantonment | Eligible | Building is eligible for listing on the NRHP under Criterion A and C on its own merit and eligible as a contributing member to the recommended Range 22 District. |
| 413 | Cantonment | Eligible | Building is eligible for listing on the NRHP under Criterion A and C on its own merit and eligible as a contributing member to the recommended Range 22 District. |
| 414 | Cantonment | Eligible | Building is eligible for listing on the NRHP under Criterion A and C on its own merit and eligible as a contributing member to the recommended Range 22 District. |
| 417 | Cantonment | Eligible | Building appears to be a contributing property to the recommended Range 22 Historic District due to its integral association with the sustained mission of the range. |
| 420 | Cantonment | Eligible | Structure is ineligible on its own merit but remains eligible as a contributing member to the recommended Range 22 District. |
| 423 | Cantonment | Eligible | Building appears to be a contributing property to the recommended Range 22 Historic District due to its integral association with the sustained mission. |
| 430 | Cantonment | National Register | Building is on the NRHP as a chamber of the McKinley Climatic Lab, Building 440. |
| 440 | Cantonment | National Register | Eligible under Criteria A the Lab is significant for its contribution to the Nation's warfighting capabilities during WWII and Cold War eras. Criteria C the Lab is significant for its advanced engineering design. |

| Property | location | StatusCRM | narrative |
|----------------|------------|-------------------|---|
| 450 | Cantonment | National Register | Criteria A the Lab is significant for its contribution to the Nation's warfighting capabilities during WWII and Cold War eras. Criteria C the Lab is significant for its advanced engineering design. |
| 954 | Cantonment | Eligible | Building appears to meet criteria for listing in the NRHP under Criterion A for military and Criterion C for architecture. |
| Hardstand 7 | Cantonment | Eligible | Hardstand 7 is eligible for nomination to the NRHP under criteria A and C. Level 1 HABS/HAER should be sufficient for mitigation if the structure is threatened. |



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Appendix H: Map of Historic Properties within Eglin Field that are Individually NRHP Eligible



ATTACHMENT D-4

STANDARD OPERATING PROCEDURE NO. 5 for Inadvertent Discovery of Cultural Materials

Contact:

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Eglin Air Force Base Historic Building Program Manager
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(850) 883-5201

Shawn Arnold (William)
Eglin Air Force Base Archaeology Program Manager
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(850-883-5222)

Scope:

This Standard Operating Procedure (SOP) outlines the steps to be taken upon inadvertent discovery of cultural resources. It is intended for all personnel other than Eglin Air Force Base's (Eglin's) cultural resource management (CRM) personnel.

Statutory Reference(s) and Guidance:

- Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, as amended, and its implementing regulation 43 Code of Federal Regulations (CFR) 10
- Archaeological Resources Protection Act (ARPA) of 1979 (16 USC 470AA-MM)
- American Indian Religious Freedom Act (AIRFA) of 1978, as amended (42 United States Code [USC] 1996 and 1996a)
- National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulation 36 CFR 800
- Executive Order 13007 - *Indian Sacred Sites*
- Presidential Memorandum - *Government-to-Government Relations with Native American Tribal Governments* (29 April 1994)
- Florida Administration Code 1A-44 - *Procedures for Reporting and Determining Jurisdiction over Unmarked Human Burials*
- Florida Statute Chapter 872 - *Offenses Concerning Dead Bodies and Graves*

Applicability:

Typical actions that may trigger these requirements:

- field training exercises
- construction and maintenance

- activities such as digging, bulldozing, clearing or grubbing
- off-road traffic
- general observations (i.e., eroded areas, gullies, trails, etc.).

Specific discoveries that could trigger these requirements:

- discovery of known or likely human remains
- unmarked graves
- Indian or historical artifacts
- archaeological features
- paleontological remains.

Procedure:

This section describes specific actions to be taken for inadvertent discovery. The flow chart in Figure 4-4 is intended to be used by unit/activity level personnel, unit commanders, and similar personnel, as a decision-making guide when inadvertent discoveries are made as described under the applicable section of this SOP.

Inadvertent Discovery of Archaeological Artifacts

If inadvertent discovery occurs during the course of any undertaking the following steps are to be taken:

1. During mission training, if cultural material (e.g., artifacts) is discovered, the unit commander must report the location of the discovery to 96 Civil Engineering Group/Cultural Resources Section (96 CEG/CEVSH) upon completion of the mission.
2. For all ground-disturbing activities (e.g., construction, etc.), cease ground-disturbing activity when possible cultural materials and features are observed or encountered and immediately notify 96 CEG/CEVSH of the discovery
3. Secure the discovery by establishing a 50-meter (164-foot) buffer around the location.
4. 96 CEG/CEVSH will visit the location of the discovery within 24 hours of the find and determine what legal mandates are applicable and whether mitigation and consultations are required.
5. Activity may not resume in area of discovery until cleared by the 96 CEG/CEVSH.

Inadvertent Discovery of Human Remains or Funerary Objects

The following steps are to be taken if an unanticipated human burial or associated funerary object is found during an undertaking:

1. Ensure that activities have ceased at the discovery site and that the site has been secured from further adverse effects.
2. Notify the 96 CEG/CEVSH immediately of the discovery. This notification should be by telephone, to be followed by written notification.
3. Secure the discovery by establishing a 50-meter (164-foot) buffer around the location.

4. 96 CEG/CEVSH will visit the location of the discovery within 3 working days of the find and determine what legal mandates are applicable, and whether mitigation and consultations are required.
5. Activity may not resume in area of discovery until cleared by the 96 CEG/CEVSH.

**ATTACHMENT D-4 MILITARY FAMILY HOUSING PRIVATIZATION INITIATIVE
(MHPI) PROGRAMMATIC AGREEMENT**

Preserving America's Heritage

February 28, 2011

Mr. Mark Stanley
Cultural Resources Manager
90 CEG/CEVSH
501 DeLeon St., Suite 101
Eglin Air Force Base, Florida 32542-5105

REF: Programmatic Agreement for the Military Housing Privatization Initiative, Eglin
Air Force Base and Hulbert Field

Dear Mr. Stanley:

Enclosed are the three signature sheets for the executed Programmatic Agreement for the referenced undertaking. By carrying out the terms of this Agreement, the Air Force will have fulfilled its responsibilities under Sections 106 and 110 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's regulations.

We appreciate your cooperation in reaching this agreement. If you have any questions, please call Dr. Tom McCulloch at 202-606-8505.

Sincerely,

Caroline D. Hall
Assistant Director
Federal Property Management Section
Office of Federal Agency Programs

Enclosures

ADVISORY COUNCIL ON HISTORIC PRESERVATION

1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004
Phone: 202-606-8503 • Fax: 202-606-8647 • achp@achp.gov • www.achp.gov

**PROGRAMMATIC AGREEMENT
AMONG
EGLIN AIR FORCE BASE
HURLBURT FIELD
THE FLORIDA STATE HISTORIC PRESERVATION OFFICER
AND
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
ON
THE MILITARY HOUSING PRIVATIZATION INITIATIVE
EGLIN AIR FORCE BASE AND HURLBURT FIELD, FLORIDA**

WHEREAS, The United States Air Force (Air Force), pursuant to the National Defense Authorization Act for Fiscal Year 1996, Public Law (P.L.) 104-106, Title [XXVIII, Subtitle A- Military Housing Privatization Initiative (MHPDI)] (codified as 10 United States Code (U.S.C) Sections 2871-2885 as amended), proposes to privatize all existing Military Family Housing (MFH) units at Eglin Air Force Base (Eglin AFB) and at Hurlburt Field, Okaloosa County, Florida (See vicinity map, Appendix A); and

WHEREAS, the Air Force will achieve the proposed privatization by selecting the most qualified private developer to demolish existing MFH units and to construct new housing for military families, and manage these properties for the Air Force; and

WHEREAS, the Air Force will grant the selected developer, hereafter the Project Owner (PO), a lease (Ground Lease) for at least 50 years to all lands underlying existing housing, as well as certain undeveloped land, and will convey to the PO title to the newly constructed MFH units; and

WHEREAS, for as long as the Ground Lease is in effect, the PO will conduct all operation, maintenance, repair and upkeep activities for all MFH units and other ancillary facilities on behalf of the Air Force at Eglin AFB and Hurlburt Field; and

WHEREAS, the stipulations of this Programmatic Agreement (PA) will be made an exhibit to, and become incorporated within the Ground Lease binding the PO to the terms of this PA; and

WHEREAS, the undertaking, as further described below, will involve demolition and new construction activities on portions of Eglin AFB and Hurlburt Field; and

WHEREAS, the Air Force has identified four project alternatives for MFH development at Eglin AFB, which are being considered pursuant to the requirements of the National Environmental Policy Act (42 USC 4321 et seq.); and

WHEREAS, the Area of Potential Effect (APE) will not be fully known until the Air Force issues a Record of Decision and selects a Preferred Alternative; therefore, the locations of all proposed actions and alternatives with the potential to effect historic properties are included in the APE; and

WHEREAS, Eglin AFB and Hurlburt Field have identified within the APE multiple historic buildings and archaeological sites that are eligible for or listed in the National Register of Historic places (National Register), including the Camp Pinchot Historic District and the Eglin Field Historic District; and

WHEREAS, the Camp Pinchot Historic District is historically significant because of its role in the creation of the United States Department of Agriculture Forest Service (Forest Service); and

WHEREAS, properties within the Eglin Field Historic District and Camp Pinchot Historic District will be temporarily conveyed to the PO and returned to the Air Force once replacement MFH units are constructed; and

WHEREAS, Eglin AFB and Hurlburt Field have consulted with the Florida State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP) pursuant to 36 CFR Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C 470f), and in accordance with 36 CFR Part 800.5, have determined that the proposed undertaking may have an adverse effect on historic properties; and

WHEREAS, Eglin AFB and Hurlburt Field have provided the public with an opportunity to comment on this undertaking through coordinated compliance with Section 106 and the National Environmental Policy Act (NEPA), as set forth in 36 CFR §800.8; and

WHEREAS, Eglin AFB and Hurlburt Field have consulted with the National Trust for Historic Preservation (National Trust), the Florida Trust for Historic Preservation (Florida Trust), and the Forest Service and invited these parties to participate as concurring parties to this agreement; and

WHEREAS, Eglin AFB and Hurlburt Field have consulted with five federally recognized tribes, the Miccosukee Tribe of Indians of Florida, the Seminole Tribe of Florida, the Poarch Band of Creek Indians of Alabama, the Muscogee (Creek) Nation of Oklahoma, and the Thlopthlocco Tribal Town of the Creek (Muscogee) Tribe (the tribes), concerning historic properties of religious and cultural significance to the tribes that may be affected by the undertaking, and has invited the tribes to participate as concurring parties to this agreement; and

WHEREAS, the following definitions apply throughout this Agreement:

Adverse effect means altering the characteristics that make a historic property National Register eligible by diminishing the property's integrity of location, design, setting, materials, workmanship, feeling and association.

Archaeological testing means limited scientific excavation conducted at an archaeological site to either collect information on National Register eligibility or to prepare for subsequent archaeological data recovery, in accordance with an approved testing plan.

Archaeological data recovery means comprehensive scientific excavation conducted at an archaeological site in accordance with an approved data recovery plan.

Historic property means any prehistoric or historic district, site, building, structure or object included in, or eligible for inclusion in, the National Register.

National Register means the National Register of Historic Places, maintained by the Secretary of the Interior.

Treatment means any measure to avoid, minimize or mitigate the adverse effects of an undertaking on historic properties.

NOW THEREFORE, Eglin AFB and Hurlburt Field, the Florida SHPO, and the ACHP agree, and the consulting parties concur, that the MHPI undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the undertaking on historic properties.

Stipulations

The Air Force shall ensure the following stipulations are carried out.

I. General Procedures

- A. Eglin AFB and Hurlburt Field will ensure that this PA is appended to and made a part of the Ground Lease awarded the PO.
- B. Failure of the PO to follow the terms of this PA will constitute a default of the Ground lease subject to the notice and cure provisions and the rights and remedies of the Air Force as provided in the Ground Lease.
- C. The PO shall employ a person or persons meeting the qualifications specified in Stipulation VII. The qualified professional will be the point of contact representing the PO for all matters related to the implementation of this PA. The PO will provide the qualifications of such person(s) to Eglin AFB and Hurlburt Field for approval prior to employment. Eglin AFB and Hurlburt Field will provide the approved qualified professional with access to information on cultural resources, at their respective installations, for the purposes of carrying out the terms of this PA. The qualified professional shall follow Eglin AFB's curation guidelines for all cultural resource investigations.
- D. The PO, in consultation with Eglin AFB and Hurlburt Field, will meet the terms of this PA, at its own expense, prior to and during demolition and new construction of MFH, as well as for all subsequent operation and maintenance of MFH, as applicable. Eglin AFB and Hurlburt Field will conduct all consultation with SHPO and the consulting parties, as specified.

- E. To facilitate compliance with the terms of this PA, Eglin AFB will add a copy of the executed PA and each of the documents listed below, included herein by reference, to the Ground Lease for use by the PO. Eglin AFB will also provide copies of these documents to any party to this agreement upon request.
1. Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation
 2. Secretary of the Interior's Professional Qualification Standards
 3. Georgia Avenue Housing Historic Preservation Plan
 4. Camp Pinchot Historic Preservation Plan
 5. Eglin AFB curation guidelines

II. Description of the Undertaking

- A. The Air Force proposes to meet the MHPI directive by developing one of four project alternatives within Eglin AFB. Development of any one alternative will include some elements that are common to all alternatives (project commonalities). The number of housing units to be demolished and constructed will be the same among all project alternatives; only the potential location of new housing construction will vary. The following describes the project commonalities and the four project alternatives under consideration for the undertaking.
1. Project Commonalities
 - a. The Air Force will convey approximately 1,413 existing MFH units to the PO: 854 at Eglin Main Base, four at Camp Pinchot, 150 at Poquito Bayou, 25 at Camp Rudder, and 380 at Hurlburt Field.
 - b. Once replacement units are constructed, the PO will return to the Air Force nine historic housing units and associated structures within two Historic Districts: five housing units and a garage located at Georgia Avenue within the Eglin Field Historic District, and four housing units and 12 additional structures at Camp Pinchot Historic District. The return of these properties is expected within five years following execution of the Ground Lease
 - c. The PO will demolish approximately 1,404 dwellings (1,413 minus the nine historic units): 25 at Camp Rudder; 849 at Eglin Main Base, 150 at Poquito Bayou and 380 at Hurlburt Field.
 - d. The PO will construct approximately 1,477 new units in phases: 35 units for Camp Rudder, 548 units for Hurlburt Field and 894 units for Eglin AFB.

- e. At completion of the housing privatization development, the PO will own and operate approximately 1,477 housing units on behalf of Eglin AFB and Hurlburt Field.
- f. The required demolition and new construction are expected to be conducted within five years of executing a contract between the Air Force and the PO.

2. Project Alternative 1 – White Point

The Air Force will construct up to 894 units for Eglin AFB using a combination of parcels within the White Point area, plus 64 units for Hurlburt Field (See map of Alternative 1 in Appendix B.1).

3. Project Alternative 2 – Eglin Main Base/Valparaiso

The Air Force will construct up to 894 units for Eglin AFB utilizing one parcel or a combination of up to 11 parcels at Eglin Main Base and Valparaiso, plus 64 units for Hurlburt Field (See map of Alternative 2 in Appendix B.2).

4. Subalternative 2a - Eglin Main Base (Preferred Alternative)

The Air Force will construct up to 894 units for Eglin AFB on parcel 1 in Alternative 2, plus 64 units for Hurlburt Field (See map of Subalternative 2a in Appendix B.3).

5. Project Alternative 3 – North Fort Walton Beach

The Air Force will construct up to 894 units for Eglin AFB utilizing a combination of parcels within the North Fort Walton Beach Area, plus 64 units for Hurlburt Field (See map of Alternative 3 in Appendix B.4).

6. Project Alternative 4 – Mix

The Air Force will construct approximately 958 units on Eglin AFB utilizing a combination of parcels within any of the areas identified above in Project Alternatives 1-3.

III. Identification and Eligibility

- A. Cultural resource inventory of the APE is complete. Eglin AFB and Hurlburt Field, in consultation with the Florida SHPO, have determined that historic properties are present within the APE. The results of identification along with National Register recommendations are presented by resource type in Appendix C and further described by installation below.

B. Eglin AFB

1. Project Commonalities

- a. Camp Pinchot has 16 buildings and structures. Buildings 1551, 1552, 1553, 1555, 1556, 1557, 1558, 1559, 1561, and 1562 are contributing elements to the Historic District because of their association with the history of the United States Forest Service between 1910 and 1940 (See map of the Camp Pinchot Historic District in Appendix D.1). Five buildings and structures, 1550 (Tennis Court), 1560 (Seawall), 1565 (Pump House), 1569 (Water Tank) and 1570 (Carport) are not contributing elements. A sixteenth building, 1564, is a guest house associated with building 1559 (currently the Base Commander's residence) and was built in 1950. This building is potentially eligible to the National Register for its association with the military use of Camp Pinchot from 1940 to the present. For the purposes of this PA, building 1564 will be treated as a National Register eligible historic property. A contributing element to the Camp Pinchot Historic District is the tree-lined entrance road.
- b. The Georgia Avenue portion of the Eglin Field Historic District has six properties: Buildings 23, 25, 26, 27, 28, and 29 (See map of the Georgia Avenue properties in Appendix D.2). Buildings 25, 26, 27, 28, and 29 are contributing elements to the District because of their association with the history of weapons testing and development during World War II. Building 23 is not a contributing element to the District.
- c. Archaeological site 8OK871 at Camp Pinchot is eligible for listing in the National Register of Historic Places under 36 CFR Part 60.4 (d) for its potential to contribute important information on the prehistory of the region (See map of site 8OK871 in Appendix D.1).
- d. Archaeological sites 8OK107 and 8OK952 at Poquito Bayou are eligible for listing in the National Register of Historic Places under 36 CFR Part 60.4 (d) for their potential to contribute important information on the prehistory of the region (See map of sites 8OK107 and 8OK952 in Appendix D.3).
- e. Eglin AFB has identified multiple "Capehart" housing units, built between 1951 and 1958, in the Capehart and Wherry housing areas. The potential adverse effects of Air Force undertakings on historic properties of this type have been addressed pursuant to Program Comments issued by the Advisory Council on Historic Preservation in November, 2004. Eglin AFB will not mitigate the effects of the undertaking to Capehart housing units. Eglin AFB will, however, encourage the PO to consider the Neighborhood Design Guidelines for Army Capehart and Wherry Housing in finalizing all treatment strategies and development plans for areas in which Capehart housing units are currently located.

2. Project Alternative 1 (White Point)

Two archaeological sites, 8OK1006 and 8OK2627, are located within or adjacent to the APE for Alternative 1 (See location of sites 8OK1006 and 8OK2627 in Appendix B.1). Both sites are National Register eligible under 36 CFR Part 60.4 (d).

3. Project Alternatives 2 (Eglin Main Base/Valparaiso) and Subalternative 2A (Eglin Main Base)

One archaeological site, 8OK993, is located within the APE for Alternative 2 and Subalternative 2 A. The site is not National Register eligible.

4. Project Alternative 3 (North Fort Walton Beach)

Site 8OK871 at Camp Pinchot is adjacent to but outside of the APE for Alternative 3. As noted above, the site is National Register eligible under 36 CFR Part 60.4 (d).

5. Project Alternative 4 (Mix)

One or more of the above referenced historic properties may be located within the APE for this alternative.

C. Hurlburt Field

1. There are two archaeological sites, 8OK133 and 8OK061, located adjacent to but outside of the APE (See location of sites 8OK133 and 8OK061 in Appendix B.2). Both sites have been determined to be National Register eligible under 36 CFR Part 60.4 (d) for their potential to contribute important information on the prehistory of the region.
2. No Capehart housing is located within the APE at Hurlburt field. There are housing units in the Live Oak, Pine Shadows and Southside Manor housing areas that were constructed in 1957; however, Hurlburt Field, in consultation with the SHPO, has determined that these do not meet the criteria for listing to the National Register.

IV. Nature of Effects

- A. The proposed undertaking may alter, directly and indirectly, the characteristics of properties that are listed in or eligible for listing in the National Register by diminishing their integrity of location, design, setting, materials, and workmanship, and possibly feeling and association. The effects of the proposed demolition, new construction, and ongoing maintenance and repair of the historic properties, where applicable, are presented by resource type in Appendix C and further described below.

B. Eglin AFB

1. Project Commonalities

- a. Historic buildings 1551, 1552, 1553, 1555, 1556, 1557, 1558, 1559, 1561, 1562, and 1564 at the Camp Pinchot Historic District may be adversely affected during maintenance and repair activities while these buildings are in the temporary custody of the PO.
- b. Historic buildings 25, 26, 27, 28, and 29 in the Georgia Avenue portion of the Eglin Field Historic District may be adversely affected during maintenance and repair activities while these buildings are in the temporary custody of the PO.
- c. Archaeological site 8OK871 at Camp Pinchot will not be directly affected by proposed construction. Portions of the site, however, may be adversely affected during maintenance and repair activities, as well as landscaping, while the Camp Pinchot property is in the temporary custody of the PO.
- d. Archaeological sites 8OK107 and 8OK952 at Poquito Bayou may be adversely affected by proposed demolition.

2. Project Alternative 1 (White Point)

- a. Archaeological site 8OK1006 is outside of but in close proximity to the APE and may be affected by the undertaking if the Air Force selects this alternative.
- b. Archaeological site 8OK2627 may be adversely affected by the proposed demolition and new construction if the Air Force selects this alternative.

3. Project Alternative 3 (North Fort Walton Beach)

- a. Archaeological site 8OK781 is outside of but in close proximity to the APE and may be affected by the undertaking if the Air Force selects this alternative.
- b. The tree lined entrance road to the Camp Pinchot Historic District is outside of but in close proximity to the APE and may be affected by the undertaking if the Air Force selects this alternative.

4. Project Alternative 4 (Mix)

Any of the above referenced historic properties could be adversely affected as described above in Project Alternatives 1 – 3.

C. Hurlburt Field

Archaeological sites 8OK133 and 8OK2627 are outside of the APE but in close proximity to proposed demolition and new construction and may be affected by these activities.

V. Resolution of Adverse Effects

A. The Air Force shall meet its responsibilities under 36 CFR 800.6 by ensuring that once the Record of Decision is issued and a preferred alternative is selected the PO, at its expense, resolves the adverse effects of the undertaking to historic properties at each installation in accordance with the following stipulations.

B. Eglin AFB

1. Project Commonalities

a. Camp Pinchot Historic District

- (i) The PO shall conduct routine maintenance of buildings 1551, 1552, 1553, 1555, 1556, 1557, 1558, 1559, 1561 and 1562 in accordance with Stipulation VI.A.1. Any activity that is not routine maintenance will be an adverse effect. PO will ensure that any adverse effects to these buildings will be treated prior to the proposed activity. The PO, in consultation with Eglin AFB, shall follow the treatment recommendations of the Camp Pinchot Historic Preservation Plan in accordance with the procedures in Stipulation VI.B.
- (ii) Building 1564, potentially National Register eligible for its association with the military use of Camp Pinchot, is not included in the Camp Pinchot Historic Preservation Plan. The PO will consult with Eglin AFB prior to conducting routine maintenance and repair of building 1564. Any activities that Eglin AFB determines will have an adverse effect to building 1564 will require treatment in accordance with the procedures in Stipulation VI.B.
- (iii) The PO will maintain the existing trees in accordance with the general treatment recommendations for landscaping in the Camp Pinchot Preservation Plan. Planting new trees or removing existing trees anywhere on the property will be an adverse effect subject to prior consultation with Eglin AFB.
- (iv) Once the property and buildings at Camp Pinchot are returned by the PO to the Air Force, the Air Force will determine the future of the buildings in accordance with Stipulation V.D.

b. Georgia Avenue (Eglin Field Historic District)

- (i) The PO shall conduct routine maintenance of buildings 25, 26, 27, 28, and 29 in accordance with Stipulation VI.A.2. Any activity that is not routine maintenance

will be an adverse effect. The PO will ensure that any adverse effects to these buildings will be treated prior to the proposed activity. The PO, in consultation with Eglin AFB, shall follow the treatment recommendations of the Georgia Avenue Housing Historic Preservation Plan in accordance with the procedures in Stipulation VI.B.

- (ii) Once the property and buildings at Georgia Avenue are returned by the PO to the Air Force, the Air Force will determine the future of the buildings in accordance with Stipulation V.D.

c. Archaeological Site 8OK871 at Camp Pinchot

With the temporary conveyance of Camp Pinchot, archaeological site 8OK871 will become the management responsibility of the PO until returned to the Air Force. The PO shall consult with Eglin AFB prior to the initiation of any ground disturbing activities within the site's limits as follows.

- (i) Any ground disturbing activity, including but not limited to planting or removal of trees and other vegetation, affecting intact portions of the site will require archaeological testing and or data recovery following an approved plan developed in accordance with Stipulation VI.D.
- (ii) Any ground disturbing activity affecting previously disturbed portions of the site, including but not limited to the in-place removal and replacement of utilities or planting or removing trees or other vegetation, which is strictly limited to previously disturbed soil, shall be monitored by a professional archaeologist in accordance with Stipulation VI.C. Discovery of intact archaeological deposits during archaeological monitoring will be treated as an unanticipated discovery under Stipulation VIII.

d. Archaeological Sites 8OK107 and 8OK952 at Poquito Bayou

The PO shall, whenever possible, avoid all ground disturbances within the recorded limits of archaeological sites 8OK107 and 8OK952. This includes crossing over and parking on the sites with work vehicles. To ensure avoidance, the PO shall leave in place all building slabs, sidewalks and other hardscape features, as well as all utilities that are located within the sites' limits. The PO shall also ensure that all demolition activities are monitored by a professional archaeologist in accordance with Stipulation VI.C. If and when it is not possible to avoid ground disturbance within the limits of the sites, and adverse effects will occur, the PO shall conduct archaeological testing and or data recovery following the procedures in Stipulation VI.D.

2. Project Alternative 1 (White Point)

- a. If the Air Force selects Alternative 1, the PO shall avoid affecting site 8OK1006 by following the procedures for archaeological monitoring in Stipulation VI.C for all demolition and construction activities within 50 meters of the site.
- b. If the Air Force selects Alternative 1, the PO shall conduct archaeological testing and data recovery at site 8OK2627 following the procedures in Stipulation VI.D prior to demolition and construction activities.

3. Project Alternative 3 (North Fort Walton Beach)

If the Air Force selects Alternative 3, the PO shall avoid affecting the Camp Pinchot Historic District by defining a development setback at least 100 feet wide along the District's property boundary. All new construction shall be prohibited within the development setback.

4. Project Alternative 4 (Mix)

Selection of this project alternative may result in adverse effects to one or more of the historic properties described above and will be resolved as described in Alternatives 1 and 3.

C. Hurlburt Field

The PO shall avoid affecting archaeological sites 8OK133 and 8OK061 by following the procedures for archaeological monitoring in Stipulation VI.C for all demolition and construction activities within a 50-meter buffer area around each site.

D. Return of Historic Properties

Once replacement MFH units are constructed, the PO will return to the Air Force, in equal or better condition than received, the buildings and structures at Georgia Avenue and Camp Pinchot as stated in Stipulation II.A.1.b. At that time, Eglin AFB will determine the future of these properties. Should the Air Force propose any action that may result in adverse effects to the Eglin Field or Camp Pinchot Historic Districts, including but not limited to adaptive reuse, Eglin AFB will consult with the consulting parties to resolve the adverse effects and either amend the PA in accordance with Stipulation XIII or develop a separate agreement document.

VI. Maintenance, Monitoring and Treatment Procedures

A. Procedures for Routine Architectural Maintenance

1. Routine maintenance of buildings 1551, 1552, 1553, 1555, 1556, 1557, 1558, 1559, 1561 and 1562 at the Camp Pinchot Historic District will be conducted following the routine and general maintenance recommendations in the Camp Pinchot Preservation Plan.

Routine maintenance involves only those activities that are specifically listed in the Preservation Plan, and any activity that is not listed in the Preservation Plan is not routine maintenance. On a quarterly basis, the PO shall submit to Eglin AFB a routine maintenance report on all maintenance conducted on these buildings.

2. Routine maintenance of buildings 25, 26, 27, 28, and 29 located in the Georgia Avenue portion of the Eglin Field historic district will be conducted following the routine maintenance recommendations in the Georgia Avenue Housing Preservation Plan. Routine maintenance involves only those activities that are specifically listed in the Plan and any activity that is not listed in the Plan is not routine maintenance. On a quarterly basis, the PO shall submit to Eglin AFB a routine maintenance report on all maintenance conducted on these buildings.

B. Procedures for Architectural Treatment

1. The PO shall prepare an architectural treatment plan detailing the proposed action for submittal to Eglin AFB.
2. Eglin AFB shall submit the architectural treatment plan to SHPO for 30 day review.
3. If the SHPO does not respond within 30 days of submittal, Eglin AFB shall assume the SHPO has no objection to the proposed architectural treatment plan. Should the SHPO object to the architectural treatment plan, however, Eglin AFB will resolve the objection pursuant to Stipulation XII. Eglin AFB will take into account any comments received from SHPO within the review time in preparing its recommendation to the PO. The PO shall make all changes to the architectural treatment plan recommended by Eglin AFB and submit the revised treatment plan to Eglin AFB for approval.
4. Upon approval of the architectural treatment plan, Eglin AFB shall inform the PO and the PO shall conduct the treatment.
5. The PO shall prepare a draft report of the treatment for submittal to Eglin AFB. Eglin AFB will submit a copy of the draft to the SHPO for 30 day review and comment. Any comments received from the SHPO will be forwarded to the PO for incorporation into the final report. The final report will be completed within 12 months of the end of treatment. The PO will provide both Eglin AFB and the SHPO with one copy of any final report.
6. All architectural treatment shall be conducted in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation or the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, as applicable.

C. Procedures for Archaeological Monitoring

1. The PO shall ensure that all archaeological monitoring will be conducted by an archaeologist who meets the professional qualifications standards in Stipulation VII.
2. The PO shall ensure that the archaeological monitor will be authorized to record features, collect artifacts and samples, take photographs, draw maps and write notes, as needed. The monitor shall have the expressed authority to temporarily stop or redirect ground disturbing activities, as needed, at any time for the purposes of archaeological monitoring.
3. The PO shall submit a report of the monitoring activities to Eglin AFB or Hurlburt Field, as applicable. Eglin AFB or Hurlburt Field shall submit a copy of the monitoring report to SHPO.

D. Procedures for Archaeological Testing or Data Recovery

1. The PO shall prepare archaeological testing or data recovery plans for submittal to Eglin AFB.
2. Eglin AFB shall submit these plans to SHPO and the tribes for 30 day review.
3. If the SHPO or one or more of the tribes does not respond within 30 days of submittal, Eglin AFB shall assume that party has no objection to the proposed testing or data recovery. If the SHPO or one of the tribes objects to the testing or data recovery plans, however, Eglin AFB will resolve the objection pursuant to Stipulation XII. Eglin AFB will take into account any comments received from SHPO or any of the tribes within the review time in preparing its recommendation to the PO. The PO shall make all changes to the testing or data recovery plans recommended by Eglin AFB and submit the revised plans to Eglin AFB for approval.
4. Upon approval of the testing or data recovery plans, Eglin AFB shall inform the PO and the PO shall conduct the testing or data recovery.
5. Within 60 days following the conclusion of field work for archaeological testing or data recovery, the PO shall prepare a management summary of the field work and submit the summary to Eglin AFB. All archaeological testing and data recovery shall be reported in full within 12 months of the end of field work. The PO shall prepare a draft of the report and submit the draft to Eglin AFB. Eglin AFB will submit the draft reports to SHPO and the tribes for 30 day review. Any comments received from SHPO or any of the tribes within the review period shall be forwarded by Eglin AFB to the PO along with its recommendations. The PO will make any changes needed to complete the reports as directed. The PO will provide Eglin AFB, the tribes and the SHPO with one copy each of any final report.

6. All archaeological testing and data recovery shall be conducted in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation.

VII. Qualifications

All actions performed in compliance with the terms of this PA shall be conducted by, or under the supervision of, a qualified professional meeting the Secretary of the Interior's Professional Qualification Standards in history, architecture, architectural history, historic architecture or archaeology, as applicable, described in the Federal Register: June 20, 1997 (Volume 62, Number 119, pages 33707-33723).

VIII. Unanticipated Discoveries

- A. If a previously unknown archaeological site is discovered during the undertaking, the PO shall carry out the following measure until the discovery is resolved.
 1. All construction related activity in the vicinity of the discovery shall cease and the discovery location will be secured from further harm.
 2. Eglin AFB or Hurlburt Field, as applicable, will be notified immediately of the discovery.
 3. The PO's qualified professional will record the discovery and evaluate its nature, extent, condition, and National Register eligibility.
 4. A discovery report will be prepared and submitted to Eglin AFB or Hurlburt Field, as applicable, within 48 hours of the discovery.
- B. Within 48 hours of receiving the discovery report, Eglin AFB or Hurlburt Field, as applicable, shall consult with SHPO on the National Register eligibility of the discovery and the potential effect of continuing the undertaking.
- C. If, in consultation with SHPO, Eglin AFB or Hurlburt Field, as applicable, determines that the discovery is National Register eligible and testing or data recovery is warranted, then it shall notify the PO and the PO shall conduct the treatment in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation. Once Eglin AFB or Hurlburt Field, as applicable, determines that the treatment is complete, the PO will be notified and the work may resume. If the determination is that the discovery is not National Register eligible, Eglin AFB or Hurlburt Field, as applicable, shall notify the PO and the PO may resume work.

IX. Human Remains

- A. If human remains and associated funerary objects are discovered during construction, the PO shall carry out the following measures until the discovery is resolved.

1. All construction related activity in the vicinity of the discovery shall cease and the discovery location will be secured from further harm.
 2. Eglin AFB or Hurlburt Field, as applicable, will be notified immediately of the discovery.
 3. The PO's qualified professional will record the discovery and evaluate its nature, extent, and condition.
 4. A discovery report will be prepared and submitted to Eglin AFB or Hurlburt Field, as applicable, within 48 hours of the discovery.
- B. If Eglin AFB or Hurlburt Field, as applicable, determines the human remains are Native American, it shall notify the appropriate tribe or tribes and consult in accordance with 43 CFR Part 10, the regulations implementing the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 et seq.).
- C. If Eglin AFB or Hurlburt Field, as applicable, determines the human remains are not Native American, or the identity of the human remains is undetermined, the applicable party will consult with SHPO pursuant to 36 CFR Part 800 to resolve the discovery. Should subsequent investigation identify the remains as Native American, Eglin AFB or Hurlburt Field, as applicable, shall follow Stipulation IX.B

X. Emergency Exemptions

- A. In the event of an emergency declared by the President of the United States or the Governor of the State of Florida, pursuant to 36 CFR Part 800.12, the following emergency actions are exempted from further consideration under this PA during the time of the formally declared emergency.
1. Protection of human health and/or the environment from damage of harm by hydrocarbon or hazardous waste.
 2. Prevention of imminent damage resulting from the threat of hurricane, tornado or other natural disasters.
 3. Stabilization necessitated by the threat of imminent structural failure (e.g. repair of replacement of building footings).
 4. Actions waived from the usual procedures of Section 106 compliance, pursuant to 36 CFR 800.12 (d).

XI. Air Force Right to Make Determinations

The parties recognize the Air Force, through the Commander, 1st Special Operations Wing (1SOW/CC) at Hurlburt Field and the Commander, 96th Air Base Wing (96 ABW/CC) at Eglin AFB, or their designees, is required through this PA to make several determinations. Whether

these determinations concern the nature of the effects, unanticipated discoveries, human remains, the applicability of exemptions, or some other matter, these determinations may be made after the Air Force receives input from the PO. However, the Air Force shall make the determinations in its sole discretion, and no cause of action shall arise between the PO and the Air Force as a result of determinations made as a part of this PA. This provision in no way affects the rights of parties other than the PO and the Air Force.

XII. Dispute Resolution

A. Should any signatory to this Agreement object to any action carried out or proposed by either Eglin AFB or Hurlburt Field, as applicable, with respect to the implementation of this PA, Eglin AFB or Hurlburt Field shall consult with that signatory party to resolve the objection. If Eglin AFB or Hurlburt Field after initiating such consultation determines that the objection cannot be resolved, the applicable party shall forward documentation relevant to the objection to the ACHP, including a proposed response to the objection. Within forty-five (45) days after receipt of all pertinent documentation, the ACHP shall exercise one of the following options:

1. Advise Eglin AFB or Hurlburt Field, as applicable, that the ACHP concurs in its proposed final decision, whereupon Eglin AFB or Hurlburt field shall respond accordingly;
2. Provide Eglin AFB or Hurlburt Field, as applicable, with recommendations, which the applicable party shall take into account in reaching a final decision regarding its response to the objection; or
3. Notify Eglin AFB or Hurlburt Field, as applicable, that the objection will be referred to the ACHP membership for formal comment and proceed to refer the objection and comment within forty-five (45) days. The resulting comment shall be taken into account by Eglin AFB or Hurlburt Field in accordance with 36 CFR § 800.7(c)(4).
4. Should the ACHP not exercise one of the above options within forty-five (45) days after receipt of all pertinent documentation, Eglin AFB or Hurlburt Field, as applicable, may assume the ACHP's concurrence in its proposed response to its objections.
5. Eglin AFB or Hurlburt Field, as applicable, shall take into account any ACHP recommendation or comment provided in accordance with this stipulation with reference only to the subject of the objection; its responsibility to carry out all actions under this Agreement that are not the subjects of the objection shall remain unchanged.

XIII. Amendments

Any signatory to this agreement may request that the agreement be amended, as provided for under 36 CFR Part 800.6(c)(7), whereupon the other parties will consult to consider such amendment. Where there is no consensus among the signatories, the agreement will remain unchanged.

XIV. Termination

Any signatory to this agreement may revoke it upon written notification to the other parties by providing thirty (30) days notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, Eglin AFB or Hurlburt Field, as applicable, will comply with 36 CFR Parts 800.3 through 800.6 with regard to individual aspects of the undertaking covered by this agreement.

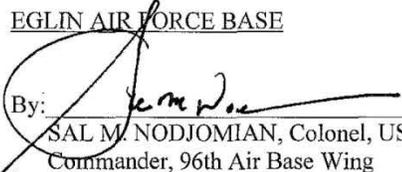
XV. Annual Review

Every year for the first five years following the execution of this PA, Eglin AFB and Hurlburt Field will meet with the PO and the consulting parties to evaluate the effectiveness of the PA. At that time, the parties will discuss whether or not the PA is functioning as intended and whether the PA needs to be amended in accordance with Stipulation XIII to correct and improve its effectiveness. The parties will meet every two years thereafter for as long as the PA is in effect.

XVI. Execution

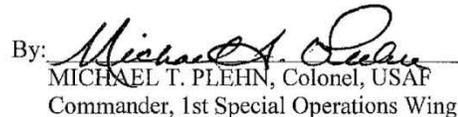
Execution and implementation of this agreement evidences that Eglin AFB and Hurlburt Field have satisfied their responsibilities under Section 106 of the NHPA for the Military Housing Privatization Initiative undertaking at Eglin AFB and Hurlburt Field.

EGLIN AIR FORCE BASE

By:  _____
SAL M. NODJOMIAN, Colonel, USAF
Commander, 96th Air Base Wing

Date: 13 OCT 10

HURLBURT FIELD

By:  _____
MICHAEL T. PLEHN, Colonel, USAF
Commander, 1st Special Operations Wing

Date: 17 Jan 11

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By:  _____
JOHN M. FOWLER, Executive Director

Date: 2/25/11

Signature Page for:

PROGRAMMATIC AGREEMENT AMONG EGLIN AIR FORCE BASE, HURLBURT FIELD, THE FLORIDA STATE HISTORIC PRESERVATION OFFICER AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION ON THE MILITARY HOUSING PRIVATIZATION INITIATIVE, EGLIN AIR FORCE BASE AND HURLBURT FIELD, FLORIDA

FLORIDA STATE HISTORIC PRESERVATION OFFICER

By:  Date: 2/9/11
SCOTT M. STROH III

Signature page for:

PROGRAMMATIC AGREEMENT AMONG EGLIN AIR FORCE BASE, HURLBURT FIELD, THE FLORIDA STATE HISTORIC PRESERVATION OFFICER AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION ON THE MILITARY HOUSING PRIVATIZATION INITIATIVE, EGLIN AIR FORCE BASE AND HURLBURT FIELD, FLORIDA

Concurring Party:

MICCOSUKEE TRIBE OF INDIANS OF FLORIDA

By: _____ Date: _____

Signature page for:

PROGRAMMATIC AGREEMENT AMONG EGLIN AIR FORCE BASE, HURLBURT FIELD, THE FLORIDA STATE HISTORIC PRESERVATION OFFICER AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION ON THE MILITARY HOUSING PRIVATIZATION INITIATIVE, EGLIN AIR FORCE BASE AND HURLBURT FIELD, FLORIDA

Concurring party:

THE SEMINOLE TRIBE OF FLORIDA

By: _____ Date: _____

Signature page for:

PROGRAMMATIC AGREEMENT AMONG EGLIN AIR FORCE BASE, HURLBURT FIELD, THE FLORIDA STATE HISTORIC PRESERVATION OFFICER AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION ON THE MILITARY HOUSING PRIVATIZATION INITIATIVE, EGLIN AIR FORCE BASE AND HURLBURT FIELD, FLORIDA

Concurring party:

POARCH BAND OF CREEK INDIANS

By: _____ Date: _____

Signature page for:

PROGRAMMATIC AGREEMENT AMONG EGLIN AIR FORCE BASE, HURLBURT FIELD, THE FLORIDA STATE HISTORIC PRESERVATION OFFICER AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION ON THE MILITARY HOUSING PRIVATIZATION INITIATIVE, EGLIN AIR FORCE BASE AND HURLBURT FIELD, FLORIDA

Concurring party:

MUSKOGEE (CREEK) NATION OF OKLAHOMA

By: _____ Date: _____

Signature page for:

PROGRAMMATIC AGREEMENT AMONG EGLIN AIR FORCE BASE, HURLBURT FIELD, THE FLORIDA STATE HISTORIC PRESERVATION OFFICER AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION ON THE MILITARY HOUSING PRIVATIZATION INITIATIVE, EGLIN AIR FORCE BASE AND HURLBURT FIELD, FLORIDA

Concurring party:

THLOPTHLOCCO TRIBAL TOWN OF THE CREEK (MUSKOGEE) TRIBE

By: _____ Date: _____

Signature page for:

PROGRAMMATIC AGREEMENT AMONG EGLIN AIR FORCE BASE, HURLBURT FIELD, THE FLORIDA STATE HISTORIC PRESERVATION OFFICER AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION ON THE MILITARY HOUSING PRIVATIZATION INITIATIVE, EGLIN AIR FORCE BASE AND HURLBURT FIELD, FLORIDA

Concurring party:

NATIONAL TRUST FOR HISTORIC PRESERVATION

By: _____ Date: _____
ELIZABETH MERRITT, Deputy General Counsel

Signature page for:

PROGRAMMATIC AGREEMENT AMONG EGLIN AIR FORCE BASE, HURLBURT FIELD, THE FLORIDA STATE HISTORIC PRESERVATION OFFICER AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION ON THE MILITARY HOUSING PRIVATIZATION INITIATIVE, EGLIN AIR FORCE BASE AND HURLBURT FIELD, FLORIDA

Concurring party:

FLORIDA TRUST FOR HISTORIC PRESERVATION

By: _____ Date: _____
NANCY H. MADDOX, President

ATTACHMENT D-5
STANDARD OPERATING PROCEDURE 5 AND 6 FROM EGLIN ICRMP

STANDARD OPERATING PROCEDURE NO. 5
for
Inadvertent Discovery of Cultural Materials

Contact:

Ms. Lynn Shreve
 Eglin Air Force Base Historic Building Program Manager
 96 CEG/CEVSH
 501 DeLeon St., Suite 100
 Eglin AFB, FL 32542-5133
 (850) 883-5201

Shawn Arnold (William)
 Eglin Air Force Base Archaeology Program Manager
 96 CEG/CEVSH
 501 DeLeon St., Suite 100
 Eglin AFB, FL 32542-5133
 (850-883-5222)

Scope:

This Standard Operating Procedure (SOP) outlines the steps to be taken upon inadvertent discovery of cultural resources. It is intended for all personnel other than Eglin Air Force Base's (Eglin's) cultural resource management (CRM) personnel.

Statutory Reference(s) and Guidance:

- Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, as amended, and its implementing regulation 43 Code of Federal Regulations (CFR) 10
- Archaeological Resources Protection Act (ARPA) of 1979 (16 USC 470AA-MM)
- American Indian Religious Freedom Act (AIRFA) of 1978, as amended (42 United States Code [USC] 1996 and 1996a)
- National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulation 36 CFR 800
- Executive Order 13007 - *Indian Sacred Sites*
- Presidential Memorandum - *Government-to-Government Relations with Native American Tribal Governments* (29 April 1994)
- Florida Administration Code 1A-44 - *Procedures for Reporting and Determining Jurisdiction over Unmarked Human Burials*
- Florida Statute Chapter 872 - *Offenses Concerning Dead Bodies and Graves*

Applicability:

Typical actions that may trigger these requirements:

- field training exercises
- construction and maintenance

- activities such as digging, bulldozing, clearing or grubbing
- off-road traffic
- general observations (i.e., eroded areas, gullies, trails, etc.).

Specific discoveries that could trigger these requirements:

- discovery of known or likely human remains
- unmarked graves
- Indian or historical artifacts
- archaeological features
- paleontological remains.

Procedure:

This section describes specific actions to be taken for inadvertent discovery. The flow chart in Figure 4-4 is intended to be used by unit/activity level personnel, unit commanders, and similar personnel, as a decision-making guide when inadvertent discoveries are made as described under the applicable section of this SOP.

Inadvertent Discovery of Archaeological Artifacts

If inadvertent discovery occurs during the course of any undertaking the following steps are to be taken:

1. During mission training, if cultural material (e.g., artifacts) is discovered, the unit commander must report the location of the discovery to 96 Civil Engineering Group/Cultural Resources Section (96 CEG/CEVSH) upon completion of the mission.
2. For all ground-disturbing activities (e.g., construction, etc.), cease ground-disturbing activity when possible cultural materials and features are observed or encountered and immediately notify 96 CEG/CEVSH of the discovery
3. Secure the discovery by establishing a 50-meter (164-foot) buffer around the location.
4. 96 CEG/CEVSH will visit the location of the discovery within 24 hours of the find and determine what legal mandates are applicable and whether mitigation and consultations are required.
5. Activity may not resume in area of discovery until cleared by the 96 CEG/CEVSH.

Inadvertent Discovery of Human Remains or Funerary Objects

The following steps are to be taken if an unanticipated human burial or associated funerary object is found during an undertaking:

1. Ensure that activities have ceased at the discovery site and that the site has been secured from further adverse effects.
2. Notify the 96 CEG/CEVSH immediately of the discovery. This notification should be by telephone, to be followed by written notification.
3. Secure the discovery by establishing a 50-meter (164-foot) buffer around the location.

4. 96 CEG/CEVSH will visit the location of the discovery within 3 working days of the find and determine what legal mandates are applicable, and whether mitigation and consultations are required.
5. Activity may not resume in area of discovery until cleared by the 96 CEG/CEVSH.

**STANDARD OPERATING PROCEDURE NO. 5
Inadvertent Discovery of Cultural Materials**

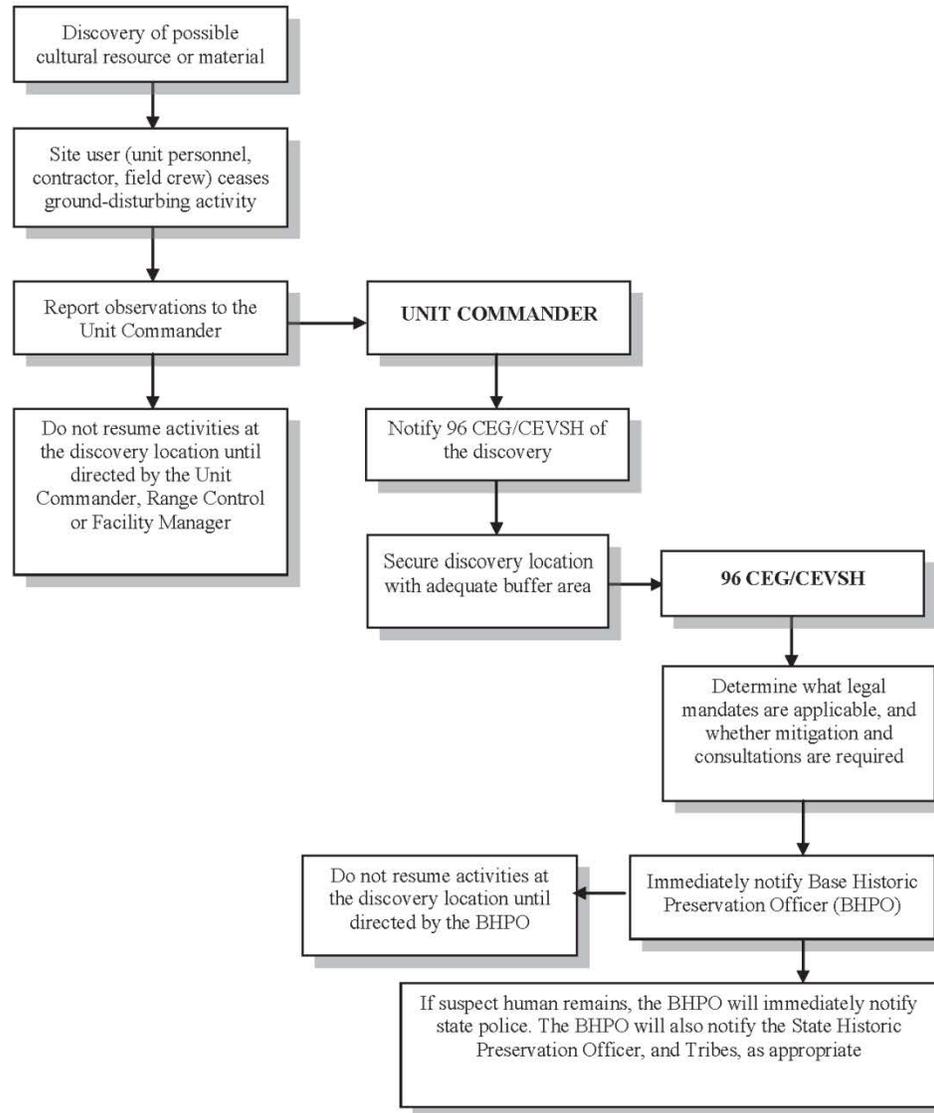


Figure 4-4. Unit Personnel Flow Chart for Inadvertent Discovery of Cultural Resources.

STANDARD OPERATING PROCEDURE NO. 6
For
Native American Consultation

Eglin Contacts:

Ms. Lynn Shreve
Eglin Air Force Base Historic Building Program Manager
96 CEG/CEVSH
501 DeLeon St., Suite 100
Eglin AFB, FL 32542-5133
(850) 883-5201

Shawn Arnold (William)
Eglin Air Force Base Archaeology Program Manager
96 CEG/CEVSH
501 DeLeon St., Suite 100
Eglin AFB, FL 32542-5133
(850-883-5222)

Federally-recognized Tribal Contacts:

Micosukee Tribe of Indians of Florida
Section 106/NAGPRA Representative
Tamiami Station
P.O. Box 440021
Miami, Florida 33144
305-223-8380

Seminole Tribe of Florida
Tribal Historic Preservation Officer
30290 Josie Billie Highway
PMB 1004
Clewiston, Florida 33440
863-983-6549

Poarch Band of Creek Indians of Alabama
Tribal Historic Preservation Officer
5811 Jack Springs Road
Atmore, Alabama 36502
251-253-5620

Muscogee (Creek) Nation of Oklahoma
Tribal Historic Preservation Officer
P.O. Box 580
Okmulgee, Oklahoma 74447
918-732-7731

Thlopthlocco Tribal Town
Tribal Historic Preservation Officer
I-40 Exit 227 Clearview Road
Okemah, Oklahoma 74859
405-786-2579

Scope:

Federal law requires consultation with affected Native American Tribes, Native Hawaiian organizations, Native American religious leaders and representatives, lineal descendants of affected Native American Tribes, and the interested public. This Standard Operating Procedure (SOP) acknowledges that the Eglin Air Force Base (Eglin) Commander shall consult with Native American Tribes and other interested parties for implementation of the principles and processes affecting traditional cultural properties; properties of traditional, religious, and cultural importance; sacred sites; human remains; or associated cultural items. The Commander, in consultation with five Federally-recognized Native American Tribes, anticipates executing formal agreements defining procedures for the purpose of facilitating consultation obligations and assessment services in FY2013.

Statutory Reference(s) and Guidance:

- National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations 36 Code of Federal Regulations (CFR) 800
- Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, as amended, and its implementing regulations 43 CFR 10
- Archaeological Resources Protection Act (ARPA) of 1979 (16 United States Code 470AA-MM)
- Executive Order 13175 - *Consultation and Coordination with Indian Tribal Governments* (6 November 2000)
- Presidential Memorandum for Heads of Executive Departments and Agencies - *Government-To-Government Relations With Native American Tribal Governments* (29 April 1994)
- Department of Defense (DoD) Instruction 4710.02: *DoD Interactions with Federally-Recognized Tribes*

Applicability:

Typical triggering events:

- Issuance of ARPA permit
- Historic preservation and Section 106 activities
- Matters that significantly or uniquely affect tribal communities or other interested parties
- Access, use, and protection of sacred sites or traditional cultural properties

Government-to-Government consultation:

Eglin has entered into separate Memorandum of Understandings (MOUs) with Miccosukee Tribe of Indians of Florida, Seminole Tribe of Florida, Poarch Band of Creek Indians of Alabama, and Muscogee (Creek) Nation of Oklahoma, and a Consultation Protocol agreement with the Thlopthlocco Tribal Town that consider some or all parts of Eglin to be ancestral lands (**Appendix F**); these agreements should be fully executed in FY2013. Under these MOUs, the Eglin Commander and the Tribal Leader(s), or designated representative(s), are the respective representatives for government-to-government executive level consultations. Each party has designated a point of contact (POC) for interim, ongoing, and non-formal meetings and consultations.

1. The POC shall refer matters arising under this SOP to higher Eglin authority as the occasion or protocol demands.
2. Should the Eglin POC change, the Eglin Commander will contact the State Historic Preservation Office (SHPO) / Tribal Historic Preservation Office (THPO) regarding the appointment of a new POC.
3. The POC will review this SOP on an annual basis.

Procedure for general consultation:

Eglin will follow the stipulations outlined in the agreement documents between Eglin and the five Federally-recognized Tribes that have ancestral affiliations to Eglin lands (**Appendix F**). These include:

1. The Commander should invite a representative of the tribal governing bodies, or interested parties who may inform decisions from each Tribe or organization, to Eglin on a biennial basis to foster communication and cooperation regarding NHPA and NAGPRA compliance.
2. Consultation should address potential effects of proposed activity on properties of traditional, religious, or cultural significance to each Tribe or organization.
3. Terms, conditions, and mitigation determined through consultation may be incorporated into planning and permitting.
4. Eglin will provide an annual report to the involved Native American Tribes and other interested parties that summarizes all archaeology related cultural resources management activities and unanticipated discoveries that occurred in the previous year, complete with site locations and all other pertinent information.
5. Eglin will consult with the Tribe if a proposed undertaking will have an effect to National Register eligible prehistoric archaeological site and provide an opportunity for the Tribe to review the data recovery plan, if applicable.
6. The Native American Tribes and other interested parties will make good faith efforts to respond within 45 days or less, when feasible, to requests for information, consultation, or concurrence in relation to issues of traditional cultural properties, sacred sites, burials, or human remains.

Procedure for unanticipated discovery of prehistoric cultural material:

Eglin will consult with the Tribe within 3 working days of the discovery and provide to the Tribe copies of all reports and other documentation describing the discovery as soon as it is available.

Procedure for NAGPRA:

Eglin will abide by the specific procedures described in the executed MOUs with the Miccosukee Tribe of Indians of Florida, Seminole Tribe of Florida, Poarch Band of Creek Indians of Alabama, and Muscogee (Creek) Nation of Oklahoma, and the Consultation Protocol agreement with the Thlopthlocco Tribal Town found in **Appendix F**. A summary of these procedures is provided below.

1. Eglin will notify the Tribe if there is a possibility that Native American human remains or associated funerary objects could be found during archaeological data recovery to resolve adverse affects.
2. Eglin will notify the Tribe if there is an inadvertent discovery of Native American human remains or associated funerary objects as a result of any activity on Eglin reservation within 3 working days of discovery.
3. All activity will cease and the location will be secured until consultation, analysis, and reburial is complete.

4. Eglin will rebury the Native American remains and associated funerary objects in a place as close to the original discovery as possible. The new grave location will not be marked in any manner.

APPENDIX E
WATER RESOURCES

STORMWATER RUNOFF ANALYSIS FOR FIVE CANTONMENT AREAS OF THE ADP EA, 2013

16 September 2013

The Natural Resources Conservation Service (NRCS) WinTR-55 is a single-event rainfall-runoff small watershed hydrologic model based on the United States Department of Agriculture, Soil Conservation Service TR-55. The model can subdivide up to 10 watersheds and calculates combined CN values based on the multiple land uses and soil types and provides calculations of other necessary parameters. Once specific project locations and details are proposed in future actions, the model can be re-run to calculate storage volumes required to determine stormwater structures for management of stormwater at each project site.

The SCS method is recommended for areas with greater than 10% urbanization. All cantonment areas met this criterion. The SCS equations may under predict runoff volume from most small storms (because the CN values used in the SCS method assume that runoff will only occur once the soil has become saturated); but in this analysis, 25 year storm values were used.

Evaluation

The WinTR-55 model and User Manual NRCS Version Date: 19, 2002 were downloaded from the NRCS website (<http://www.wcc.nrcs.usda.gov/hydro/hydro-tools-models-wintr55.html>). The maximum area for the model is 25 square miles, which is sufficient for all five cantonment areas (Eglin Main the largest at 17 square miles), and the rainfall distributions include NRCS Type I, IA, II, III, NM 60, NM65, NM70, NM75, but was user-defined for Okaloosa County which made it Type III. The Rainfall duration of the model is 24 hours and the primary inputs need to run WinTR-55 are the drainage area, CN, and Time of Concentration (T_c). Several assumptions had to be made for input decisions because the actual project site locations and sizes are unknown at this point.

Rainfall

Typical stormwater system design considerations for the County evaluate the peak discharge for 25 year storms for multiple durations ranging from 1 hour to 24 hours. This accounts for variations in soil types and accompanying percolation rates. Soils with good percolation rates may experience peak runoff rates during shorter, more intense storms and soils with poor percolation rates may experience peak flows during longer storms with greater total rainfall amounts.

The WinTR-55 model provides Type III rain data for Okaloosa County; however, the rain data is only for 24 hour duration. It was decided that a 25-year storm was the appropriate frequency storm to evaluate runoff amounts. A 25-year/24-hour storm event is one that theoretically occurs once every 25 years and lasts for 24 hours. This type of rain event yields 10.23 inches of rain in Okaloosa County, Florida.

Land Areas

The potential land areas for each cantonment location were identified on a United States Geological Survey (USGS) Topographical map. Only one drainage area was used and an average slope was entered for the landscape within property boundaries.

Land Use

A CN parameter quantifies the runoff potential for each cantonment area based on land use and soil type.

The following urban land use estimates were made from the total acreage of each cantonment for *pre-construction condition* (existing condition) as percent pervious and impervious pavement:

- Eglin Main 75% impervious (8448 acres), 25% pervious (2816 acres)
- 7SFG (A) 75% impervious (375 acres), 25% pervious (125 acres)
- Duke Field 20% impervious (389 acres), 80% pervious (1556 acres)
- Camp Rudder 10% impervious (28.6 acres), 90% impervious (257.4 acres)
- C-6 SPCS 75% impervious (10.5 acres), 25% pervious (3.5 acres)

The urban land use estimates for *post-construction condition* of each cantonment in Alternative 1 is the sum of [pre-construction acres of impervious surface + “total disturbed acres” from Table 2-1]. Then the total disturbed acreage was subtracted from the pre-construction pervious acreage for the post-construction pervious acreage. Post-construction conditions for Alternative 2 were calculated the same way. So for example, Eglin Main post-construction impervious acres (8,448 +292) = 8,741 acres; and post construction pervious acres (2,816 - 292) = 2,524 acres.

The Hydrologic Soil Groups (HSG) A, B, C, and D identify the soil type. A is considered very pervious with low runoff potential and D is not pervious with a high runoff potential. All of the cantonment areas are predominately Lakeland Sand so HSG A was used for the evaluations. The C-6 SPCS is predominately Hurricane Sand which also has low runoff potential so HSG A was also used for the soil type.

Time of Concentration (T_c)

The T_c is the length of time it takes for water to flow from the most remote point of the area to the outlet once the soil has become saturated. After a maximum of 100', sheet flow usually becomes shallow concentrated and that is the most common designation used, in lieu of specific channel patterns and lengths

The WinTR-55 model also requires the input of flow length, slope, and a flow path designation of paved or unpaved to calculate T_c . One flow lengths (L) was calculated from GIS maps, across the longest predominate stormwater flow of each cantonment area.

Input values for drainage lengths were as follows: Eglin Main (L=14784'), 7SFG (A) (L=4799'), Duke Field (L=10327'), Camp Rudder (L=5359'), C-6 SPCS (L=900').

Slopes were calculated from GIS maps and in Table E-1 expressed as Average Slope (%). Elevations were taken from Eglin Test and Training Complex Land Range Map, NGA reference no. V747MEGLINLAND1.

Table E-1. Topography of the Five Cantonment Areas, Expressed as Average Slope (%)

| Cantonment | Low Elevation (ft.) MSL | High Elevation (ft.) MSL | Height (ft.) | Length (ft.) | Average Slope (%) |
|-------------|-------------------------|--------------------------|--------------|--------------|-------------------|
| Eglin Main | 0 | 75 | 75 | 6,372 | <1 |
| 7SFG(A) | 175 | 175 | 0 | 1,980 | <1 |
| Duke Field | 200 | 200 | 0 | 3,960 | <1 |
| C-6 SPCS | 75 | 160 | 85 | 660 | 12 |
| Camp Rudder | 70 | 135 | 65 | 8,557 | <1 |

7 SFG (A) = 7th Special Forces Group (Airborne); ft. = feet; MSL = mean sea level; SPCS = Space Control Squadron

Based upon the designation (input) of paved or unpaved, Manning's number was determined and flow velocity is calculated. 'Paved' designation was used for Eglin Main, 7SFG (A), and C-6 SPCS because of the higher estimated amounts of impervious surfaces than pervious. And, 'Unpaved' was used for Duke Field and Camp Rudder with higher estimated areas of pervious surfaces.

Following are the equations used by WinTR-55 in the determination of T_c .

Shallow Concentrated flow

$$V=16.1345*S^{0.5} \text{ for unpaved}$$

Based on solution of manning equation with $n=0.05$ and $r=0.4$

$$V=20.3282 S^{0.5} \text{ for paved}$$

Based on solution of manning equation with $n=0.025$ and $r=0.2$

Where V =average velocity (ft/s)

S =slope of hydraulic grade line (watercourse slope ft/ft)

$$T_c = L/(V \times 3600)$$

Where T_c = Time of concentration (hrs)

L = length of flow (ft)

Results

Once the rainfall, land area and use, and T_c data are entered, WinTR-55 is run to yield the peak discharge flow of stormwater runoff in cubic feet per second (cfs). Additionally, a TR-20 report can be run to determine the total amount of runoff for the area in inches. Table E-2 and Table E-3 summarize run results (16 September 2013) to allow comparison between existing conditions at each cantonment and Alternative 1 and Alternative 2 actions. Alternative 2 has 25% notional footprint increase over Alternative 1.

Alternative 1:*Eglin Main:*

The model yielded peak flows of 28,263 cfs and 28,503 cfs for the existing and the notional construction actions (using total disturbed acreage provided in Table 2-1 added to the existing impervious acreage). Additionally, the TR-20 report yielded total runoff amounts of 8.53 inches and 8.65 inches for the existing (pre-construction) and notional (post-construction) activity; respectively, for a 1% increase in runoff for the 11,265 acre area (approximately 17 square miles).

7SFG (A):

The model yielded peak flows of 2415 cfs and 2597 cfs for the existing and notional conditions, respectively. Additionally, the TR-20 report yielded total runoff amounts of 18.53 inches and 10.01 inches for the existing and notional conditions; respectively, for a 17% increase in runoff amount.

Duke Field:

The model yielded peak flows of 3161 cfs and 3251 cfs for existing and notional conditions, respectively. Additionally, the TR-20 report yielded total runoff amounts of 4.97 inches and 5.10 inches for the existing and notional conditions; respectively, for a 3% increase in runoff amount.

Camp Rudder:

The model yielded peak flows of 598 cfs and 765 cfs for existing and notional conditions, respectively. Additionally, the TR-20 report yielded total runoff amounts of 4.28 inches and 5.37 inches for the existing and notional conditions; respectively, for a 25% increase in runoff amount.

C-6 SPCS:

The model yielded peak flows of 113 cfs and 120 cfs for existing and notional conditions, respectively. Additionally, the TR-20 report yielded total runoff amounts of 8.53 inches and 9.77 inches for the existing and notional conditions; respectively, for a 15% increase in runoff amount.

Table E-2. Modeled Alternative 1 Cantonment Areas Pre- and Post-Construction Stormwater Runoff Conditions

| Area Modeled | Runoff ¹ (inches) | | Peak Flows ² (ft ³ /s) | | Runoff Increases Due to Construction ³ (inches) |
|--------------|------------------------------|-------|--|--------|--|
| | Pre | Post | Pre | Post | |
| Eglin Main | 8.53 | 8.65 | 28,263 | 28,503 | 0.12 (1%) |
| 7SFG (A) | 8.53 | 10.01 | 2,415 | 2,597 | 1.48 (17%) |
| Duke Field | 4.97 | 5.10 | 3,161 | 3,251 | 0.14 (3%) |
| Camp Rudder | 4.28 | 5.37 | 598 | 765 | 1.09 (25%) |
| C-6 SPCS | 8.53 | 9.77 | 113 | 120 | 1.24 (15%) |

ft³/s = cubic feet per second; 7 SFG (A) = 7th Special Forces Group (Airborne); SPCS = Space Control Squadron

1. Modeled stormwater runoff amounts currently (pre) and after construction (post) in inches.

2. Modeled stormwater runoff peak flows currently (pre) and after construction (post) in cubic feet per second (ft³/s).

3. Increases in stormwater runoff after construction (post) over current conditions (pre) in inches.

Alternative 2:*Eglin Main:*

The model yielded peak flows of 28,263 cfs and 28503 cfs for the existing and the notional construction actions (using total disturbed acreage provided in Table 2-1 added to the existing impervious acreage). Additionally, the TR-20 report yielded total runoff amounts of 8.53 inches and 8.65 inches for the existing and notional construction activity; respectively, for a 1% increase in runoff for the 11,265 acre area (approximately 17 square miles).

7SFG (A):

The model yielded peak flows of 2415 cfs and 2597 cfs for the existing and notional conditions, respectively. Additionally, the TR-20 report yielded total runoff amounts of 8.53 inches and 10.01 inches for the existing and notional conditions; respectively, for a 17% increase in runoff amount.

Duke Field:

The model yielded peak flows of 3161 cfs and 3251 cfs for existing and notional conditions, respectively. Additionally, the TR-20 report yielded total runoff amounts of 4.97 inches and 5.10 inches for the existing and notional conditions; respectively, for a 3% increase in runoff amount.

Camp Rudder:

The model yielded peak flows of 598 cfs and 804 cfs for existing and notional conditions, respectively. Additionally, the TR-20 report yielded total runoff amounts of 4.28 inches and 5.65 inches for the existing and notional conditions; respectively, for a 32% increase in runoff amount.

C-6 SPCS:

The model yielded peak flows of 113 cfs and 120 cfs for existing and notional conditions, respectively. Additionally, the TR-20 report yielded total runoff amounts of 8.53 inches and 10.01 inches for the existing and notional conditions; respectively, for a 17% increase in runoff amount.

Table E-3. Modeled Alternative 2 Cantonment Areas Pre- and Post-Construction Stormwater Runoff Conditions

| Area Modeled | Runoff ¹ (inches) | | Peak Flows ² (ft ³ /s) | | Runoff Increases Due to Construction ³ (inches) |
|--------------|------------------------------|-------|--|--------|--|
| | Pre | Post | Pre | Post | |
| Eglin Main | 8.53 | 8.65 | 28,263 | 28,503 | 0.12 (1%) |
| 7SFG (A) | 8.53 | 10.01 | 2,415 | 2,597 | 1.48 (17%) |
| Duke Field | 4.97 | 5.10 | 3,161 | 3,251 | 0.14 (3%) |
| Camp Rudder | 4.28 | 5.65 | 598 | 804 | 1.37 (32%) |
| C-6 SPCS | 8.53 | 10.01 | 113 | 120 | 1.48 (17%) |

ft³/s = cubic feet per second; 7 SFG (A) = 7th Special Forces Group (Airborne); SPCS = Space Control Squadron

1. Modeled stormwater runoff amounts currently (pre) and after construction (post) in inches.
2. Modeled stormwater runoff peak flows currently (pre) and after construction (post) in cubic feet per second (ft³/s).
3. Increases in stormwater runoff after construction (post) over current conditions (pre) in inches.

Summary

Overall, there was increased post-construction peak flow (cfs) at each cantonment over existing conditions; likewise there was increased stormwater runoff (inches). The results in the model for Eglin Main are probably very conservative (over) estimates because it is unlikely that stormwater flows in one path, over this large of an area with such diverse infrastructure and landscape. But this assumption was made for the model in lieu of specific information not provided for notional action construction footprints which would define a smaller sub-basin area with specific, measurable drainage path. 7SFG (A), Duke Field, Camp Rudder, and C-6 SPCS have less conservative values because of the smaller drainage areas used for the one-drainage-path assumption, and less diverse landscapes. Also it can be noted that Eglin main, 7SFG (A) and Camp Rudder there was no difference between Alternative 1 and 2 peak flow rates or stormwater runoff volumes even with the 25% increase in construction activity for Alternative 2. The 25% increase of Alternative 2 action showed an increased in peak flow and stormwater runoff for Camp Rudder and C-6 SPCS.